

THE WORLD'S HIGH ALTITUDE RESEARCH STATIONS.

A LIST OF HIGH ALTITUDE RESEARCH  
FACILITIES PREPARED BY THE

JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS.

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## FOREWORD

MANY YEARS AGO THE PRESENT AUTHOR HAD OCCASION TO TAKE A COSMIC RAY SURVEY EXPEDITION TO A NUMBER OF MOUNTAIN STATIONS IN CENTRAL AND SOUTH AMERICA. AT THAT TIME HE BECAME PARTICULARLY AWARE OF THE LACK OF ADEQUATE INFORMATION ABOUT RESEARCH FACILITIES. BY ACCUMULATING DATA OVER A PERIOD OF YEARS, ENOUGH MATERIAL WAS AVAILABLE TO PERMIT A FEW PROVISIONAL SUMMARIES<sup>1</sup> TO BE PUBLISHED.

MORE RECENTLY, THE INTERNATIONAL UNION OF BIOLOGICAL SCIENCES (IUBS), SOME MEMBERS OF WHICH HAD SIMILARLY BECOME AWARE OF A LACK OF AVAILABLE INFORMATION, SUGGESTED THE ORGANIZATION OF SUCH A JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS (JCHARS), AND SERVED AS PARENT UNION AFTER ITS CREATION BY THE INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS (ICSU). THIS COMMISSION WAS CHARGED WITH CONDUCTING A SURVEY AND COLLECTING DATA ON EXISTING FACILITIES. DR. R. STAMPFLI OF BERNE, SWITZERLAND, SERVED AS SECRETARY AND COLLECTED A LARGE AMOUNT OF DATA. HE AND THE PRESENT AUTHOR EXCHANGED ADDRESSES AND OTHER INFORMATION OVER A PERIOD OF SEVERAL YEARS. THE SURVEY HAS NOW BEEN COMPLETED AND THE LIST OF EXISTING STATIONS IS PRESENTED HEREWITH.

THE DEFINITION OF HIGH ALTITUDE, AS USED IN THIS REPORT, MEANS "IN EXCESS OF ABOUT 7500 FEET, OR ABOUT 2000 METERS." EXCEPT FOR LISTINGS IN APPENDIX II AND III, WE DO NOT, IN GENERAL, SHOW ANY FACILITIES LOCATED BELOW 7500 FEET.

A NUMBER OF LARGE CITIES ARE LOCATED AT HIGH ELEVATIONS. THERE ARE POTENTIAL OBSERVING SITES AT THESE CITIES, OR IN MANY CASES, UNIVERSITIES WHERE RESEARCH FACILITIES EXIST OR COULD READILY BE ESTABLISHED. A NUMBER OF SUCH CITIES ARE LISTED IN APPENDIX II.

IN APPENDIX I WE HAVE SUMMARIZED ADVICE ABOUT ELECTRICAL POWER PROBLEMS. IN APPENDIX II ARE LISTED (A)MAJOR CITIES, AND (B)A NUMBER OF POTEN-

TIAL SITES WHICH HAVE BEEN OCCUPIED ON A TEMPORARY BASIS OR WHICH MIGHT BE OCCUPIED. IN APPENDIX III ARE LISTED A NUMBER OF ASTRONOMICAL OBSERVATORIES WHICH ARE AT MODERATE ALTITUDES.

ALL LISTINGS ARE IN GEOGRAPHICAL ORDER, FROM SOUTH TO NORTH.

#### PROCEDURES IN PREPARING THIS LIST

THE QUESTIONNAIRE FORMERLY USED BY JCHARS WAS SENT TO ALL MEMBERS OF THE JCHARS AND TO A NUMBER OF DIRECTORS OF HIGH ALTITUDE RESEARCH STATIONS WITH A REQUEST FOR CRITICISMS AND COMMENTS. WHEN THESE CRITICISMS AND COMMENTS WERE RECEIVED THEY WERE INCORPORATED INTO A REVISED QUESTIONNAIRE WHICH THUS REPRESENTS THE CONSENSUS OF THE THINKING OF THE MEMBERS OF JCHARS AND OF SOME STATION DIRECTORS AS WELL. THE REVISED QUESTIONNAIRES WERE SENT OUT TO THE DIRECTORS OF SOME FIFTY STATIONS, AND THE RETURNED DATA IS PRESENTED HEREWITH. THE FOREWORD, INTRODUCTION AND APPENDICES HAVE ALSO BEEN SENT TO ALL MEMBERS FOR THEIR COMMENT AND APPROVAL.

PHOTOGRAPHS OF A FEW OF THE STATIONS ARE INCLUDED. BECAUSE OF COST, NOT ALL PHOTOGRAPHS RECEIVED COULD BE PUBLISHED. PRESENCE OR ABSENCE OF A PHOTOGRAPH DOES NOT IMPLY ANY JUDGMENT OF MERIT ON THE PART OF THE EDITOR OR JCHARS.

IT IS RECOGNIZED THAT NO SUCH LIST CAN BE COMPLETE. DATA ON STATIONS IN CERTAIN COUNTRIES IS ALMOST ENTIRELY UNOBTAINABLE.

#### LIMITS OF ACCURACY OF THE DATA

THE DATA ON THE VARIOUS STATIONS IS, IN THE VAST MAJORITY OF CASES, THAT WHICH WAS PROVIDED BY THE DIRECTORS OF THE VARIOUS STATIONS. IT MUST BE RECOGNIZED THAT THE DATA WILL VARY CONSIDERABLY IN ACCURACY AND COMPLETENESS. THUS FOR EXAMPLE, SOME STATIONS DO NOT HAVE MORE THAN FRAGMENTARY

METEOROLOGICAL RECORDS. FURTHER, DATA ABOUT FACILITIES, POWER AND ACCOMMODATIONS WILL CHANGE FROM TIME TO TIME, AND MUST BE REGARDED AS THE DIRECTOR'S OPINION AT THE TIME OF PUBLICATION OF THIS REPORT. IT IS HOPED THAT NEW STATIONS MAY BE SET UP AND IMPROVEMENTS TO EXISTING FACILITIES WILL BE MADE IN THE NEAR FUTURE.

WITH RESPECT TO ALTITUDE, SOME STATIONS HAVE BEEN ACCURATELY SURVEYED, AND OTHERS HAVE NOT. ON SOME, AS IN THE U.S., THE PRIMARY DATA IS MEASURED IN FEET. IN MANY OF THE EUROPEAN STATIONS THE MEASUREMENT IS IN METERS. CONVERTING TO THE OTHER SYSTEM WHEN THE ACCURACY OF THE PRIMARY DATA IS NOT KNOWN MAY EASILY GIVE A FICTIONAL IMPRESSION OF ACCURACY. THUS IF ONE STATION DIRECTOR REPORTS HIS STATION ALTITUDE AS 3500 METERS, IF THIS IS PRESENTED AS 11,487 FEET IT IMPLIES A PRECISION WHICH WAS PROBABLY NOT PRESENT IN THE PRIMARY DATA; BUT IF THE FIGURE IS ROUNDED OFF IN CONVERTING, TO SAY 11,500 FEET, THEN SOME PERSONS MAY CRITICIZE THE CONVERSION AS INACCURATE! IT HAS THEREFORE BEEN DECIDED TO PRESENT THE PRIMARY DATA AS RECEIVED, AND WHEN CONVERSION IS MADE, TO CONVERT TAKING 1 METER AS 3.28 FEET, AND ROUND OFF THE RESULT TO THE NEAREST TEN FEET, OR FIVE METERS, DEPENDING ON WHICH WAY THE CONVERSION IS MADE.

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FINANCIAL HELP, AND TO THE DIRECTORS OF THE VARIOUS STATIONS WHO PROVIDED  
MOST OF THE INFORMATION CONTAINED HEREIN.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

UNION	NAME	ADDRESS
IAU	DONALD H. MENZEL PRESIDENT	HARVARD COLLEGE OBSERVATORY CAMBRIDGE 38, MASS. USA
IUBS	ROBERT STAMPFLI SECRETARY	BUHLPLATZ 5, BERNE, SWITZERLAND
IUPAP	ROBERT BRODE	UNIV. OF CALIFORNIA, BERKELEY 4, CALIFORNIA
	J. CLAY	INST. OF PHYSICS, MUIDERGRACHT 6, AMSTERDAM, NETHERLANDS
	SERGE A. KORFF	NEW YORK UNIVERSITY, UNIVERSITY HEIGHTS, NEW YORK 53, N.Y., USA
IUBS	CARLOS MONGE	INSTITUTO BIOLOGICO ANDINO, APARTADO 821, LIMA, PERU
IUPAP	M. F. PERUTZ	CAVENDISH LABORATORY, CAMBRIDGE, ENGLAND
IUGG	MARCEL DE QUERVAIN	EIDIG. INSTITUT FUR SCHNEE U. LAWINENFORSCHUNG, WEISSFLUHJOCH, DAVOS, SWITZERLAND
IAU	JEAN ROSCH	PIC DU MIDI OBSERVATOIRE, BAGNERES DE BIGORRE, HAUTES PYRENEES, FRANCE
IUBS	GEORGE SALT	KING'S COLLEGE, CAMBRIDGE, ENGLAND
AIH	V. V. SOHONI	INDIA METEOROLOGICAL SERVICE, LOIT ROAD, NEW DELHI, INDIA

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## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: COSMIC RAY STATION SITES.1) SOCOMPA, NEAR TUCUMAN. 2) TIERRA DEL FUEGO. 3) ARGENTINE SECTOR OF THE  
ARGENTINA. ANTARCTIC.

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

1) 5200M AV. BAROMETRIC  
ALTITUDE 2) 1000 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE CM.HG

GEOGRAPHIC LATITUDE \_\_\_\_\_ N. OR S. GEOGRAPHIC LONGITUDE \_\_\_\_\_ E. OR W.

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. \_\_\_\_\_  
AV. DEPTH OF SNOW FT. FT.  
SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. \_\_\_\_\_  
AV. DEPTH OF SNOW M. M.

OPERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

ACCESS AND TRANSPORT: 1) IS NEAR TUCUMAN, ABOUT 2000 KM FROM BUENOS AIRES, AND IS AVAILABLE  
THROUGHOUT THE YEAR. 3) MAY BE REACHED BY MEANS OF A WEEKLY FLIGHT  
1. PERSONNEL. FROM OPERATED BY THE ARGENTINIAN NAVY. BY (RAIL)(AUTO) \_\_\_\_\_

2. HEAVY EQUIPMENT: (VIA) \_\_\_\_\_

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? \_\_\_\_\_

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE. \_\_\_\_\_2. STOVE (A) TO BE BROUGHT (B) AVAILABLE. \_\_\_\_\_3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER \_\_\_\_\_

SANITATION \_\_\_\_\_

HEATING \_\_\_\_\_

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. \_\_\_\_\_ MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE AT SOCOMPA : ABOUT 100 KW. NO ELECTRICAL POWER IN  
OTHER LOCATIONS.A.C. POWER KW, VOLTS, CYCLES, PHASE.D.C. POWER KW, VOLTS.

SPACE \_\_\_\_\_ SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER \_\_\_\_\_ FUNCTIONS \_\_\_\_\_

ACCOMODATIONS FOR \_\_\_\_\_ PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION COSMIC RAY STATION SITES, ARGENTINA.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION CONTROLLED BY THE DIRECCION NACIONAL DE LA ENERGIA ATOMICA.
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE CAPTAIN PEDRO IRAOLAGOITIA,  
PROF. OTTO GAMBA DIRECTOR NACIONAL DE LA ENERGIA ATOMICA,  
SCIENTIFIC DIRECTOR. ARGENTINE NAVY.

CONDITIONS FOR APPLICATION PERMISSION FROM THE DIRECCION NACIONAL DE LA ENERGIA ATOMICA  
MUST BE SECURED. U.S. PHYSICISTS ESPECIALLY WELCOME, IT IS INDICATED.

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE \_\_\_\_\_  
\_\_\_\_\_

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES \_\_\_\_\_

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_

KG. OR \_\_\_\_\_ KG./SQ. METER \_\_\_\_\_

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL \_\_\_\_\_ POUNDS, OR: \_\_\_\_\_ LB/SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? \_\_\_\_\_

LIBRARY \_\_\_\_\_

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES \_\_\_\_\_

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL NUCLEAR PHYSICS AND COSMIC RAY RESEARCH.

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: OBSERVATORIO DEL INFERNILLO,  
FACULTAD DE FILOSOFIA Y EDUCACION, UNIVERSIDAD DE CHILE,  
MACUL # 774, SANTIAGO, CHILE.

FREIGHT ADDRESS IF DIFFERENT: SAME AS ABOVE.

AV. BAROMETRIC  
ALTITUDE 4320 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE 44.3 CM. Hg

GEOGRAPHIC LATITUDE  $33^{\circ}10'$  S. GEOGRAPHIC LONGITUDE  $70^{\circ}17'$  W.

CLIMATE: WINTER: MAX. TEMP. -20° C. SUMMER: MAX. TEMP. 17° C.  
MIN. TEMP. -24°  
AVERAGE TEMP. -12°  
AV. DEPTH OF SNOW 1 M

## **ACCESS AND TRANSPORT:**

1. PERSONNEL. FROM SANTIAGO VIA LAS CONDES BY (AUTO) AUTO
  2. HEAVY EQUIPMENT:(VIA) LAS CONDES.
  3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE. YES.
  2. STOVE (A) TO BE BROUGHT NO. (B) AVAILABLE. YES.
  3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES. (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO. (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
SCHOOL

WATER FROM MELTED SNOW. SANTIAGO. (Possible to obtain food and other supplies from the "La Disputada" mine, if necessary)

SANITATION COMPLETE, MODERN FACILITIES.

## HEATING      ELECTRIC HEATERS AND COAL STOVES

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 12 MMXOR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT. NO

(B) POWER AVAILABLE YES

A.C. POWER 10 KW, 220 VOLTS, 50 CYCLES, SINGLE PHASE

D.C. POWER = KW. = VOLTS x AMPERS

SPACE 25M<sup>2</sup>. (POSSIBLE TO OBTAIN 10M<sup>2</sup> MORE)

PERMANENT STAFF: NUMBER    FUNCTIONS METEOROLOGIST.

ACCOMODATIONS FOR 12 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION OBSERVATORIO DEL INFERNILLO.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION FACULTAD DE FILOSOFIA Y EDUCACION, UNIV. DE CHILE.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE GABRIEL ALVIAL C.FACULTAD DE FILOSOFIA Y EDUCACION, UNIVERSIDAD DE CHILE, SANTIAGO, CHILE.CONDITIONS FOR APPLICATION NONE, BUT PREFERENCE IS GIVEN PHYSICISTS.FEE FOR SOJOURN NONE. GRATIS.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE WILSON CLOUD CHAMBER 40x30x15 CM<sup>3</sup>.LIGHT EQUIPMENT ELECTRONIC APPARATUS.DARK ROOM FACILITIES PROJECTOR PRODUCING AN IMAGE 2.25 M X 1.5 M.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.

KG. OR KG/SQ. METER

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL - POUNDS, OR: - LB/SQ. FOOT OBSERVATORY  
BUILT ON ROCK (GRANITE), SO FLOOR WILL SUPPORT A FAIRLY HEAVY LOAD.THICKNESS AND MATERIAL OF ROOF: 12 CM REINFORCED CONCRETE. SOME SECTIONS COVERED WITH  
LIGHT MATERIAL.IS ROOF FLAT OR SLANTED? FLAT.LIBRARY NONE.WORK SHOP: MAJOR MACHINES: NONE. SEE NOTE (2).TOOLS AND OTHER FACILITIES " " "PERMANENT MECHANIC AVAILABLE? " " "SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAYS AND GEOPHYSICS.POTENTIAL METEOROLOGY.

FURTHER REMARKS AND DATA. (1) THE WAY TO THE OBSERVATORY IS THROUGH PEREZ-CALDERA, A LITTLE VILLAGE AT 2700 M. WITH HOTEL FACILITIES. THEN TO THE "LA DISPUTADA", A COPPER MINE AT 3420 M., AND FROM THIS POINT TO THE LAB. THE ACCESS TO THE OBSERVATORY IS AS FOLLOWS: MAY 1 - SEPT. 1: FROM SANTIAGO TO PEREZ-CALDERA 3 HOURS BY CAR. FROM PEREZ-CALDERA TO "LA DISPUTADA" 4 HOURS ON SKIS. FROM THE MINE TO THE OBSERVATORY 4 HOURS ON SKIS(IF WEATHER IS FINE)

SEPT. 1 - DEC. 1: IT IS POSSIBLE TO REACH A POINT BETWEEN PEREZ-CALDERA AND "LA DISPUTADA" GOING BY CAR. THE REST OF THE WAY MUST BE DONE ON FOOT OR SKIS.

DEC. 1 - MAY 1: THE MINE CAN BE REACHED IN 3.5 HOURS BY CAR. THE REST CAN BE DONE IN 4 HOURS (ON FOOT) OR IN 3 HOURS ON HORSEBACK. IN ALL CASES, IT IS CONVENIENT TO STAY ONE NIGHT AT PEREZ-CALDERA OR "LA DISPUTADA", FOR ACCLIMATION.

(2) NO SHOP FACILITIES AT OBSERVATORY, BUT VERY COMPLETE SHOP AND MECHANICS AT SANTIAGO.

(3) NEAR THE OBSERVATORY (ROUND TRIP IN A DAY), THERE ARE THE FOLLOWING HEIGHTS:  
"LA PALOMA", 4,900 METERS. "EL ALTAR", 5,222 METERS.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: OBSERVATION STATIONS - MAIN  
NEAR MENDOZA  
ARGENTINA

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

2 PEAKS: 3800 AV. BAROMETRIC

ALTITUDE 4000 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE \_\_\_\_\_ CM.HG

NEARBY- PEAK OF ACONCAGUA- 6200 M.

GEOGRAPHIC LATITUDE 330 S. GEOGRAPHIC LONGITUDE 69° W.

(APPROXIMATELY) (APPROXIMATELY)

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C. SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.

MIN. TEMP. \_\_\_\_\_ MIN. TEMP. \_\_\_\_\_

AVERAGE TEMP. \_\_\_\_\_ AVERAGE TEMP. \_\_\_\_\_

AV. DEPTH OF SNOW M. FT. AV. DEPTH OF SNOW M. FT.

OPERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

## ACCESS AND TRANSPORT:

ACONCAGUA ACCESSIBLE ONLY IN SUMMER (DECEMBER TO FEBRUARY).

1. PERSONNEL. FROM \_\_\_\_\_ VIA \_\_\_\_\_ BY (RAIL)(AUTO) \_\_\_\_\_

2. HEAVY EQUIPMENT: (VIA) \_\_\_\_\_

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? \_\_\_\_\_

## KITCHEN AND MEAL FACILITIES: ARRANGE WITH DR. CRUZ, SENIOR RECTOR OF THE UNIVERSIDAD

DE CUYO, FOR LIVING FACILITIES.

1. OBSERVERS DO THEIR OWN COOKING. \_\_\_\_\_ COOK AVAILABLE. \_\_\_\_\_

2. STOVE (A) TO BE BROUGHT \_\_\_\_\_ (B) AVAILABLE. \_\_\_\_\_

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. \_\_\_\_\_ (YES OR NO)

(B) CATERING ALREADY ARRANGED FOR. \_\_\_\_\_ (YES OR NO)

(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES. \_\_\_\_\_

WATER \_\_\_\_\_

SANITATION \_\_\_\_\_

HEATING \_\_\_\_\_

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. \_\_\_\_\_ MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE YES. \_\_\_\_\_

A.C. POWER 10 KW, 200 VOLTS, 50 CYCLES,        PHASE.  
AVAILABLE AT ONE OF THE TWO PEAKS.

D.C. POWER        KW,        VOLTS.

SPACE \_\_\_\_\_ SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER \_\_\_\_\_ FUNCTIONS \_\_\_\_\_

ACCOMODATIONS FOR \_\_\_\_\_ PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION OBSERVATION STATIONS - MAIN.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION DIRECCION NACIONAL DE LA ENERGIA ATOMICA,  
SUPERVISED BY UNIVERSIDAD DE CUYO.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE Dr. CRUZ, SENIOR RECTOR  
UNIVERSIDAD DE CUYO, 9 DE JULIO 946, MENDOZA, ARGENTINA.CONDITIONS FOR APPLICATION PERMISSION FROM THE DIRECCION NACIONAL DE LA ENERGIA ATOMICA  
MUST BE SECURED. U.S. PHYSICISTS ESPECIALLY WELCOME, IT IS INDICATED.

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE \_\_\_\_\_  
\_\_\_\_\_

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES \_\_\_\_\_

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_

KG. OR \_\_\_\_\_ KG/SQ. METER  
MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL \_\_\_\_\_ POUNDS, OR: \_\_\_\_\_ LB/SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? \_\_\_\_\_

LIBRARY \_\_\_\_\_

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES \_\_\_\_\_

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL NUCLEAR PHYSICS, COSMIC RAY RESEARCH.

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: INSTITUTO DE BIOLOGIA DE LA ALTURA  
MINA AGUILAR, PROVINCE OF JUJUY, F.C.N. GRAL. BELGRANO.  
ARGENTINA.

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_ AV. BAROMETRIC \_\_\_\_\_

4000-4500 ALTITUDE \_\_\_\_\_ METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE \_\_\_\_\_ CM.HG

GEOGRAPHIC LATITUDE \_\_\_\_\_ N. OR S. GEOGRAPHIC LONGITUDE \_\_\_\_\_ E. OR W.

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
 MIN. TEMP. \_\_\_\_\_  
 AVERAGE TEMP. \_\_\_\_\_  
 AV. DEPTH OF SNOW \_\_\_\_\_ FT. SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
 MIN. TEMP. \_\_\_\_\_  
 AVERAGE TEMP. \_\_\_\_\_  
 AV. DEPTH OF SNOW \_\_\_\_\_ FT.

OPERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM \_\_\_\_\_ VIA \_\_\_\_\_ BY (RAIL)(AUTO) \_\_\_\_\_
2. HEAVY EQUIPMENT: (VIA) \_\_\_\_\_
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? \_\_\_\_\_

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. \_\_\_\_\_ COOK AVAILABLE. \_\_\_\_\_
2. STOVE (A) TO BE BROUGHT \_\_\_\_\_ (B) AVAILABLE. \_\_\_\_\_
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. \_\_\_\_\_ (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. \_\_\_\_\_ (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES. \_\_\_\_\_

WATER \_\_\_\_\_

SANITATION \_\_\_\_\_

HEATING \_\_\_\_\_

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. \_\_\_\_\_ MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE \_\_\_\_\_

A.C. POWER \_\_\_\_\_ KW, \_\_\_\_\_ VOLTS, \_\_\_\_\_ CYCLES, \_\_\_\_\_ PHASE.

D.C. POWER \_\_\_\_\_ KW, \_\_\_\_\_ VOLTS.

SPACE \_\_\_\_\_ SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER \_\_\_\_\_ FUNCTIONS \_\_\_\_\_

ACCOMODATIONS FOR \_\_\_\_\_ PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION INSTITUTO DE BIOLOGIA DE LA ALTURA

## ADMINISTRATION:

1. SPONSORING ORGANIZATION NATIONAL UNIVERSITY OF TUCUMAN2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DIRECTOR: HUGO PABLO CHIODI

CONDITIONS FOR APPLICATION \_\_\_\_\_

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE \_\_\_\_\_

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES \_\_\_\_\_

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL \_\_\_\_\_ KG. OR POUNDS, OR: \_\_\_\_\_ KG./SQ. METER LB./SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? \_\_\_\_\_

LIBRARY \_\_\_\_\_

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES \_\_\_\_\_

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL BIOLOGICAL PHENOMENA OF ADAPTATION AT HIGH ALTITUDES

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA. FINANCIAL AND WORK PROGRAM NOT YET DEFINITE

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: MONTEZUMA SOLAR STATION  
CASILLA 44  
CALAMA, CHILE.

FREIGHT ADDRESS IF DIFFERENT: CALAMA, CHILE  
 FEET AV. BAROMETRIC

ALTITUDE 9000 GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE 54 CM.HG

GEOGRAPHIC LATITUDE 22°40' S. GEOGRAPHIC LONGITUDE 68°56' W.

CLIMATE: WINTER: MAX.TEMP. 63° F. SUMMER: MAX. TEMP. 78° F.  
 MIN.TEMP. 26° MIN. TEMP. 38°  
 AVERAGE TEMP. 45° AVERAGE TEMP. 57°  
 AV.DEPTH OF SNOW 0 FT. AV.DEPTH OF SNOW 0 FT.

OPERATING SEASON: ALL YEAR ROUND,

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM ANTOFAGASTA VIA RAIL OR AUTO TO CALAMA BY (AUTO) CALAMA  
TO MONTEZUMA
2. HEAVY EQUIPMENT:(VIA) RAIL TO CALAMA, TRUCK TO MONTEZUMA.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

## KITCHEN AND MEAL FACILITIES:

WIVES OF REGULAR STAFF DO THE COOKING.

1. OBSERVERS DO THEIR OWN COOKING. \_\_\_\_\_
2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES(YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
CALAMA

WATER VERY SCARCE. ALL BROUGHT BY TRUCK FROM CALAMA - 15 MILES DISTANT.

SANITATION SATISFACTORY

HEATING LITTLE NEEDED

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. HOSP. (CHUQUI  
COPPER MINES) 25 MI.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

- (B) POWER AVAILABLE PROVIDED BY SMALL GASOLINE GENERATOR AND BY  
WINCHARGERS CHARGING BATTERIES.  
 A.C. POWER 3 KW, 115 VOLTS, 60 CYCLES, 1 PHASE.  
 D.C. POWER    KW, 30 VOLTS.

SPACE OUTDOORS UNLIMITED. INDOORS ---VERY LIMITED

PERMANENT STAFF: NUMBER 2 FUNCTIONS SOLAR RADIATION AND SEISMOMETER OBSERVATIONS

ACCOMODATIONS FOR 2 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY. (POSSIBLY 4)

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION MONTEZUMA SOLAR STATION

## ADMINISTRATION:

1. SPONSORING ORGANIZATION SMITHSONIAN INSTITUTION2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE F.A.GREELEY,  
CASILLA 44  
CALAMA, CHILE, IN CHARGE

CONDITIONS FOR APPLICATION \_\_\_\_\_

FEE FOR SOJOURN EACH VISITOR SHOULD ARRANGE WITH REGULAR STAFF FOR PAYMENT OF EXPENSES INCURRED.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE EQUIPMENT ALL IN CURRENT USE.PRACTICALLY NONE AVAILABLE FOR VISITORS.LIGHT EQUIPMENT " " " "DARK ROOM FACILITIES LIMITED SPACEANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONEMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: KG.OR KG/SQ. METER LB/SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: LARGELY CORRUGATED SHEET IRONIS ROOF FLAT OR SLANTED? SLANTEDLIBRARY VERY SMALLWORK SHOP: MAJOR MACHINES: NONETOOLS AND OTHER FACILITIES SMALL LATHE AND USUAL HAND TOOLSPERMANENT MECHANIC AVAILABLE? NOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL SOLAR RADIATION, SEISMOLOGYPOTENTIAL EXCELLENT SKIES FOR ASTROPHYSICS AND ASTRONOMY

FURTHER REMARKS AND DATA. WEATHER NORMALLY CLEAR AND DRY. STRONG TRADE WINDS EVERY AFTERNOON. ALL EQUIPMENT AND SUPPLIES INCLUDING WATER, MUST BE BROUGHT UP BY THE STAFF BY TRUCK FROM CALAMA, 15 MILES AWAY AND 2000 FEET LOWER.

MANAGEMENT OF THE CHUQUICAMATA COPPER MINES (25 MILES DISTANT) HAS ALWAYS

BEEN COOPERATIVE.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: LABORATORIO FISICA COSMICA CHACALTAYA  
UNIVERSIDAD MAYOR DE SAN ANDRES, LA PAZ, BOLIVIA, SOUTH AMERICA

FREIGHT ADDRESS IF DIFFERENT: THE SAME

ALTITUDE 5200 METERS GEOMAGNETIC LATITUDE 3° AV. BAROMETRIC  
TOP HOUSE 5490 METERS S. PRESSURE CM.HG

GEOGRAPHIC LATITUDE 16°19' S. GEOGRAPHIC LONGITUDE 68°10' W.

CLIMATE: WINTER: MAX. TEMP. 120 C. SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
 MIN. TEMP. -140 (RAINY SEASON) MIN. TEMP. \_\_\_\_\_  
 AVERAGE TEMP. 1.70 AVERAGE TEMP. \_\_\_\_\_  
 AV. DEPTH OF SNOW \_\_\_\_\_ FT. AV. DEPTH OF SNOW \_\_\_\_\_ FT.  
 M. M.

OPERATING SEASON: ALL YEAR ROUND, XO

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM LA PAZ TO CHACALTAYA, 30 KM BY (AUTO) 1 HOUR  
 TRIP
2. HEAVY EQUIPMENT: (VIA) SAME
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NO

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. NO COOK AVAILABLE. YES
2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER YES

SANITATION YES

HEATING YES

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 30 KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO

(B) POWER AVAILABLE 110  
 A.C. POWER 70 KW, 220 VOLTS, 50 CYCLES, 3 PHASE.  
 D.C. POWER 4 KW, 110 VOLTS.

SPACE 200 SQUARE METERS.

PERMANENT STAFF: NUMBER 10 FUNCTIONS COSMIC RAY RESEARCH

ACCOMODATIONS FOR 10 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION CHACALTAYA

## ADMINISTRATION:

1. SPONSORING ORGANIZATION UNIVERSIDAD MAYOR SAN ANDRES2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE ISMAEL ESCOBARPRESBITERO MEDINA N 350, LA PAZ, BOLIVIA.CONDITIONS FOR APPLICATION THROUGH UNIVERSIDAD MAYOR SAN ANDRES  
CENTRO BRASILEIRO PESQUISAS FISICASFEE FOR SOJOURN ---HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE  
 LIGHT EQUIPMENT  DARK ROOM FACILITIES COMPLETE IN CHACALTAYA AND UNDERGROUND LABORATORY AT LA PAZ.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS --- KG.OR   KG/SQ. METERMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL   POUNDS, OR: 600THICKNESS AND MATERIAL OF ROOF: CEMENT ASBESTOS ROOF, 1 CM.IS ROOF FLAT OR SLANTED? SLANTEDLIBRARY AT LA PAZ UNIVERSITY.WORK SHOP: MAJOR MACHINES: No.TOOLS AND OTHER FACILITIES YES.PERMANENT MECHANIC AVAILABLE? YES.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAYS AND METEOROLOGY.POTENTIAL SAME.

## FURTHER REMARKS AND DATA.

THE "TOP HOUSE" HAS AN AREA OF ABOUT 40 SQUARE FEET  
OF FLOORING. IT BELONGS TO THE METEOROLOGICAL SERVICE  
AND IS ACTUALLY SUITABLE ONLY FOR COSMIC RAY PLATES  
EXPOSURE. NO ELECTRICITY.

LABORATORY AT LA PAZ UNIVERSITY

ALTITUDE: 11,800 FT.

ENERGY : CONNECTED TO LA PAZ POWER SUPPLY.

FLOOR SPACE: 400 SQUARE FEET.

SITE: UNIVERSITY OF LA PAZ, BOLIVIA.

UNDERGROUND LABORATORY

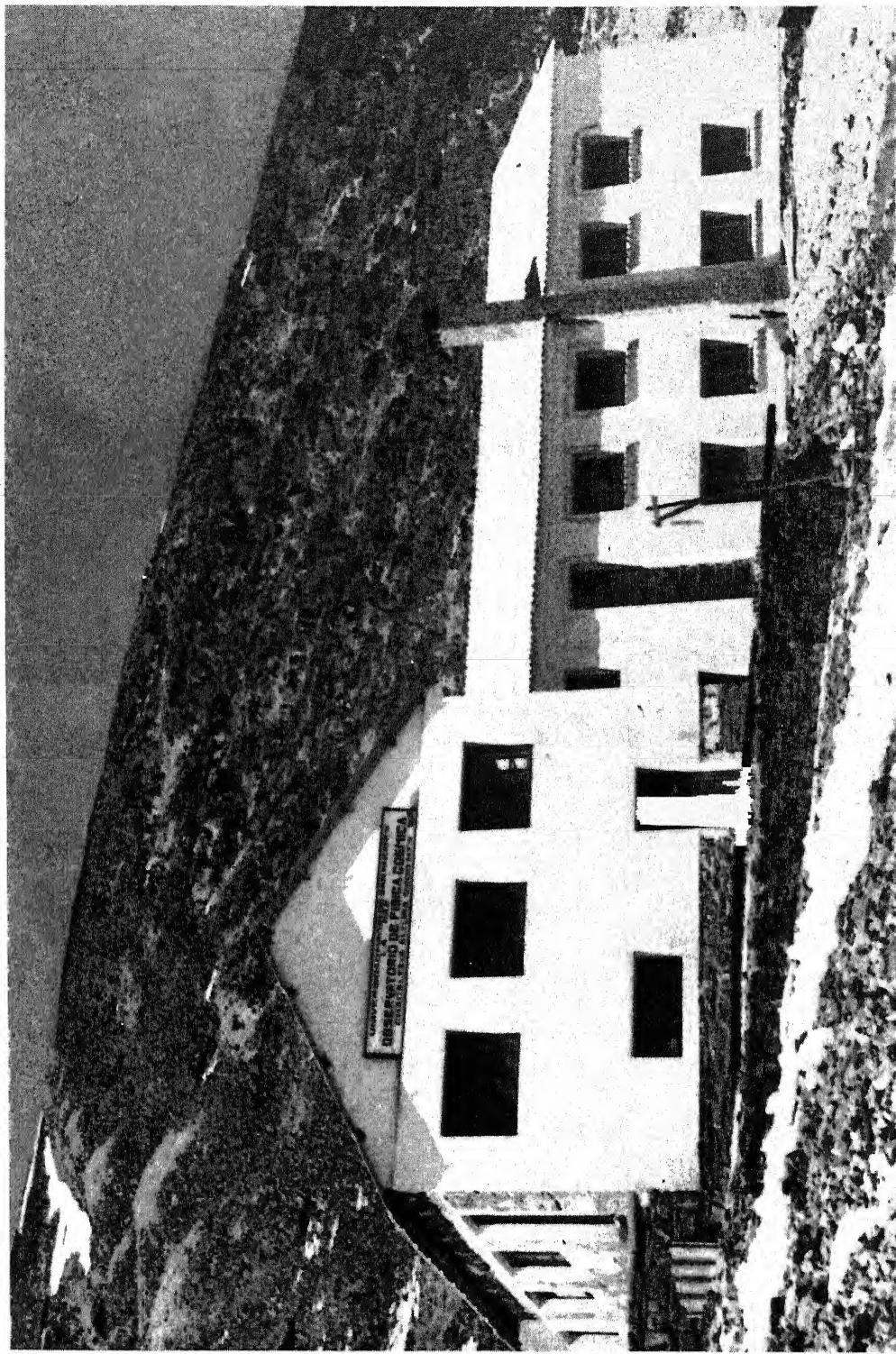
ALTITUDE: 11,800 FT.

ENERGY : CONNECTED TO LA PAZ POWER SUPPLY.

FLOOR SPACE: 200 SQUARE FEET.

DEPTH: 100 FEET VERTICAL.

APPARATUS: LIQUID EMULSIONS, DEVELOPMENT  
AND FIXING FACILITIES.



Laboratory building at Chacaltaya, Bolivia.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: INSTITUTO GEOFISICO DE HUANCAYO - HUANCAYO OBSERVATORYAPARTADO 46 --HUANCAYO--PERUFREIGHT ADDRESS IF DIFFERENT: FOREIGN OCEAN FREIGHT: VIA CALLAO; AIR FREIGHT: VIA LIMA  
11,000 FEET AV. BAROMETRICALTITUDE 3350 METERS GEOMAGNETIC LATITUDE -0.6° S. PRESSURE 51.5 CM.HGGEOGRAPHIC LATITUDE 12°02.7' S. GEOGRAPHIC LONGITUDE 75° 20.4' W.CLIMATE: WINTER: MAX. TEMP. 22° C. SUMMER: MAX. TEMP. 25° C.  
MIN. TEMP. -10° MIN. TEMP. 5°  
AVERAGE TEMP. 8.5° AVERAGE TEMP. 11.5°  
AV. DEPTH OF SNOW NONE FT. AV. DEPTH OF SNOW NONE M.

OPERATING SEASON: ALL YEAR ROUND,

ACCESS AND TRANSPORT: AUTOMOBILE ROAD FROM HUANCAYO--ALL WEATHER; LIMA TO HUANCAYO  
DAILY TRAIN EXCEPT SUNDAYS; ALL WEATHER HIGHWAY. HUANCAYO OBS. 15 KMS.1. PERSONNEL. FROM LIMA VIA HUANCAYO BY (RAIL)(AUTO) BOTH2. HEAVY EQUIPMENT: (VIA) HUANCAYO FROM LIMA TO OBS. HIGHWAY3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. CAN BE HIRED LOCALLY2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. YES3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.HUANCAYO AND SURROUNDING VILLAGESWATER LIMITED SUPPLY - MUST BE BOILED OR TREATED WITH HALAZONESANITATION RUNNING WATER IN HOUSES AND SEWAGE SYSTEM OKHEATING FIREPLACES IN LIVING ROOMS ONLYAPPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 15ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO(B) POWER AVAILABLE YES BUT LIMITEDA.C. POWER 40 KW 220/110 VOLTS, 60 CYCLES, 1 PHASE.D.C. POWER 2 KW, 110 VOLTS.SPACE 25 ACRES OF GROUNDS SQUARE FEET OR SQUARE METERS.PERMANENT STAFF: NUMBER 4 FUNCTIONS OBSERVING, REDUCTION OF DATA, PUBLICATION  
ADMINISTRATIONACCOMODATIONS FOR 10 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION HUANCAYO OBSERVATORY OF THE INSTITUTO GEOFISICO DE HUANCAYO

## ADMINISTRATION:

1. SPONSORING ORGANIZATION MINISTERIO DE FOMENTO Y OBRAS PUBLICAS - GOV'T OF PERU2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE ALBERT A. GIESECKE JR.IN HUANCAYO JOINTLY WITH DR. JORGE A. BROGGI, APARTADO 2559, LIMA.CONDITIONS FOR APPLICATION REQUEST SENT TO DR. BROGGI, AS PRESIDENT OF DIRECTIVE COMM.  
OF INSTITUTOFEE FOR SOJOURN TO COVER COSTS OF FOOD AND HEATING AND TRANSPORTATION ONLY - ROUGHLY  
ABOUT \$ 2.00 DAILY AT MOST.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE - - -

LIGHT EQUIPMENT

DARK ROOM FACILITIES YES - TWO, INCLUDING ENLARGER, ETC.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS YES, FOR CHICKENS, BUT OTHER CAN BE BUILT.  
KG.OR KG/SQ. METERMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: LB/SQ. FOOT  
8" CONCRETE IN SOME LABS, OTHERS WOOD FLOORING.THICKNESS AND MATERIAL OF ROOF: SOME LABS ARE TILE ROOFED, OTHERS WOOD WITH PAPER, AND  
YET OTHERS WITH CONCRETE SLAB.IS ROOF FLAT OR SLANTED? THERE ARE BOTH TYPES.LIBRARY SMALL, SPECIALIZED IN GEOPHYSICAL SCIENCES.WORK SHOP: MAJOR MACHINES: LATHE, DRILL, GRINDERS, CARPENTER SHOP, PAINT SHOP.TOOLS AND OTHER FACILITIES FAIR AMOUNT OF USUAL TOOLS.PERMANENT MECHANIC AVAILABLE? YES.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL TERRESTRIAL MAGNETISM, IONOSPHERE AND FIELD INTENSITY  
VARIATIONS, SEISMOLOGY, METEOROLOGY, SUN SPOTS, ATMOS. ELEC., AND COSMIC RAYS.  
POTENTIAL

FURTHER REMARKS AND DATA.

TWO ADDITIONAL STATIONS BEING INSTALLED: IONOSPHERE AT  
NORTHERN PERU IN TALAR AREA, AND SEISMOLOGY IN IQUITOS, PERU.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: MOROCOCHA  
JUNIN  
PERU

FREIGHT ADDRESS IF DIFFERENT:

ALTITUDE 4540 METERS GEOMAGNETIC LATITUDE 10° N. AV. BAROMETRIC PRESSURE    CM.HG

GEOGRAPHIC LATITUDE 11° 37' S GEOGRAPHIC LONGITUDE 76° 08' W.

CLIMATE: WINTER: MAX.TEMP.    F. OR C.  
MIN.TEMP.     
AVERAGE TEMP. 0° C.  
AV.DEPTH OF SNOW NONE FT.

SUMMER: MAX. TEMP.    F. OR C.  
MIN. TEMP.     
AVERAGE TEMP. 0°  
AV.DEPTH OF SNOW NONE FT.

OPERATING SEASON: ALL YEAR ROUND,

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM LIMA VIA    BY (RAIL)(AUTO) EITHER
2. HEAVY EQUIPMENT: (VIA) RAIL OR BUS.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE. YES
2. STOVE (A) TO BE BROUGHT    (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER AVAILABLE, RUNNING

SANITATION   

HEATING CENTRAL

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 50 MILES

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT   

(B) POWER AVAILABLE YES

A.C. POWER 10 KW, 220 VOLTS, 60 CYCLES, 1 PHASE.

D.C. POWER    KW,    VOLTS.

SPACE 2 FLOORS, 8 LABORATORIES, LIBRARY, 4 DOUBLE SQUARE FEET OR SQUARE METERS.  
BED-ROOMS.

PERMANENT STAFF: NUMBER    FUNCTIONS   

ACCOMODATIONS FOR 2 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION MOROCOCHA, JUNIN, PERU.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION \_\_\_\_\_

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROF. CARLOS MONGE, UNIVERSITY OF LIMA, PERU. PROF. A. HURTADO, INSTITUTE OF ANDEAN BIOLOGY, P.O.B. 821, LIMA, PERU.CONDITIONS FOR APPLICATION ANY UNIVERSITY OR SCIENTIFIC INSTITUTION.

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE TRANSPORT BY RAILROAD, BUS.

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES \_\_\_\_\_

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL \_\_\_\_\_ KG/OR \_\_\_\_\_ KG/SQ. METER  
POUNDS, OR: \_\_\_\_\_ LB/SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? SLANTEDLIBRARY YES

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES LIMITEDPERMANENT MECHANIC AVAILABLE? NoSCIENTIFIC FIELDS OF RESEARCH: ACTUAL BIOLOGY, HUMAN PHYSIOLOGYPOTENTIAL COSMIC RAYS

## FURTHER REMARKS AND DATA.

MOROCOCHA IS A MINING TOWN.  
HOTEL AVAILABLE ADJACENT TO STATION.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: TIMBOROA, KENYA (EAST AFRICA).THIS STATION HAS BEEN IN OPERATION DURING THE YEARS 1949, 1950, AND 1951 IN COOPERATION WITH THE LEIDEN OBSERVATORY. THIS TEMPORARY STATION WAS ABANDONED IN 1951 AND THE BUNGALOWS WERE SOLD.

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

ALTITUDE 2880 METERS GEOMAGNETIC LATITUDE  $2^{\circ}51'$  N. OR S. PRESSURE 55.1 CM.HGGEOGRAPHIC LATITUDE  $0^{\circ}0'36''$  N. OR S. GEOGRAPHIC LONGITUDE  $35^{\circ}31'$  E.  
TROPIC HIGH ALTITUDECLIMATE: MAX. TEMP.  $12^{\circ}$  C.  
MIN. TEMP.  $4^{\circ}$   
AVERAGE TEMP.  $10^{\circ}$   
AV. DEPTH OF SNOW --- FT.  
M.OPERATING SEASON: ALL YEAR ROUND, \_\_\_\_\_

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM MOMBASSA VIA NAIROBI BY (RAIL)(AUTO) AUTO 12 KM2. HEAVY EQUIPMENT: (VIA) THE SAME ROUTE UP TO EQUATOR STATION.3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.  
NECESSARY.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE. YES. (NATIVE)2. STOVE (A) TO BE BROUGHT YES (B) \_\_\_\_\_3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
ELDORETS AND LOCAL SUPPLIES.WATER WATER HAS TO BE GATHERED DURING RAIN PERIOD. (MAY-SEPT.)SANITATION NOTHING.HEATING WOOD. HAS TO BE ASSEMBLED IN THE NEIGHBORHOOD.APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 110 KM.ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT YES.

(B) POWER AVAILABLE \_\_\_\_\_

A.C. POWER KW, VOLTS, CYCLES, PHASE.D.C. POWER KW, VOLTS.SPACE 8000 SQUARE METERS.PERMANENT STAFF: NUMBER NONE FUNCTIONS ----ACCOMODATIONS FOR NO PERSONS IN ADDITION TO PERMANENT STAFF IF ANY, AT THIS MOMENT.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION TIMBOROA STATION

## ADMINISTRATION:

1. SPONSORING ORGANIZATION \_\_\_\_\_

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE \_\_\_\_\_

CONDITIONS FOR APPLICATION GOVERNOR OF KENYA.

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NOTHING.LIGHT EQUIPMENT NOTHING.DARK ROOM FACILITIES NONE.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.MAXIMUM LOADING OF LABORATORY FLOOR; TOTAL POUNDS, OR: KG/SQ. METER LB/SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? \_\_\_\_\_

LIBRARY \_\_\_\_\_

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES \_\_\_\_\_

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL \_\_\_\_\_

POTENTIAL \_\_\_\_\_

## FURTHER REMARKS AND DATA.

Station not open at present time.

JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: KODAIKANAL OBSERVATORY  
KODAIKANAL, SOUTH INDIA

**FREIGHT ADDRESS IF DIFFERENT:** KODAIKANAL OBSERVATORY, KODAIKANAL OUT AGENCY, SOUTHERN Rwy.

ALTITUDE 2343 METERS    GEOMAGNETIC LATITUDE 0.6° N.    N.    AV. BAROMETRIC  
PRESSURE 57.8 CM.HG

GEOGRAPHIC LATITUDE 10° 13' 50" N.      GEOGRAPHIC LONGITUDE 59.09M.      E.

CLIMATE: WINTER: MAX. TEMP. 62° F.  
(RECORD LOW: 37°) MIN. TEMP. 46°  
AVERAGE TEMP. 55°  
AV. DEPTH OF SNOW NIL FT.

SUMMER: MAX. TEMP. 68° F.  
(RECORD HIGH: 82° F.) MIN. TEMP. 54°  
AVERAGE TEMP. 61°  
AV. DEPTH OF SNOW NIL FT.

OPERATING SEASON: ALL YEAR ROUND,

ACCESS AND TRANSPORT: BY TRAIN UP TO KODAIKANAL ROAD Rwy. STATION; FROM THERE 53 MILES BY BUS OR TAXI TO THE OBSERVATORY. ACCESSIBLE ALL THROUGH THE YEAR. TAXI

I. PERSONNEL. FROM KODAI ROAD VIA  BY TAXI  
(AUTO)BUS

2. HEAVY EQUIPMENT:(VIA) FROM KODAI ROAD BY MOTOR LORRY.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

KITCHEN AND MEAL FACILITIES: NO COOKING FACILITIES AVAILABLE IN THE OBSERVATORY.

I. OBSERVERS DO THEIR OWN COOKING. — COOK AVAILABLE. —

2. STOVE (A) TO BE BROUGHT - (B) AVAILABLE.

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER RUNNING COLD ALL THROUGH THE YEAR IN THE OBSERVATORY.  
FROM HOTELS ABOUT 3 MILES AWAY FROM OBSERVATORY.

SANITATION      FLUSH OUT FACILITIES AVAILABLE.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 3 MI.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT No.

(B) POWER AVAILABLE

A.C. POWER 20 KW, 440 VOLTS, 50 CYCLES, 3 PHASE.  
A.C. POWER 20 KW, 220 VOLTS, 50 CYCLES, 2 PHASE.  
D.C. POWER 1 KW, 110 VOLTS.

SPACE ABOUT 5000 SQ. FEET (FOUR LABORATORIES FOR SQUARE FEET OR SQUARE METERS)

RESEARCH WORK IN THE VARIOUS BRANCHES

**PERMANENT STAFF: NUMBER 37      FUNCTIONS: 1. DIRECTOR, 3. OFFICERS, 10 ASSISTANTS, 22 CLERKS**

**ACCOMMODATIONS FOR \* PERSONS IN ADDITION TO PERMANENT STAFF AT**

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION KODAIKANAL

## ADMINISTRATION:

1. SPONSORING ORGANIZATION INDIA METEOROLOGICAL DEPARTMENT, GOV'T. OF INDIA.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. A.K. DAS, DIRECTORKODAIKANAL OBSERVATORY.CONDITIONS FOR APPLICATION REQUESTS SHOULD BE SENT TO THE DIRECTOR, KODAIKANAL OBSERVATORY  
KODAIKANAL, S. INDIA.FEE FOR SOJOURN Rs.15/- TO Rs.18/- PER DAY VARYING WITH SEASON IN THE CARLTON HOTEL.  
6 HIGH DISPERSION SPECTROGRAPHS,  
HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE 5 SIDEROSTATS, AND COELOSTATS, H-  
ALPHA AND K SPECTROHELIOPHOTOGRAPHS, CAMBRIDGE RECORDING MICRPHOTOMETER, PHOTOCHELIOPHOTOGRAPH,  
PROMINENCE SPECTROSCOPE, 20" REFLECTING TELESCOPE, 8" REFRACTOR, ONE SET EACH OF WATSON &  
LA COUR VARIOMETERS, ASKANIA MAGNETIC FIELD BALANCE, 100 MC/S. RADIO TELESCOPE, MULTI-  
LIGHT EQUIPMENT FREQUENCY AUTOMATIC IONOSPHERE RECORDER, MILNE-SHAW SEISMOPHOTOGRAPH,  
METEOROLOGICAL INSTRUMENTS, ETC.DARK ROOM FACILITIES COMPLETE DARK ROOM FACILITIES AVAILABLE.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS CAN BE IMPROVISED.  
KG. OR /SQ. METER ON TERRACE  
MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR:  $\frac{1}{2}$  TON OF IONOSPHERIC  
LAB.THICKNESS AND MATERIAL OF ROOF: ONLY THE IONOSPHERIC LABORATORY HAS TERRACED ROOFING OF  
ABOUT 9" THICK CONCRETE. ALL THE OTHER BUILDINGS HAVE SLOPING ROOFS  
IS ROOF FLAT OR SLANTED? COVERED WITH BAKED EARTH TILES.LIBRARY WELL EQUIPPED LIBRARY GETTING ALMOST ALL IMPORTANT PUBLICATIONS IN ASTROPHYSICS,  
GEOPHYSICS AND PURE PHYSICS.WORK SHOP: MAJOR MACHINES: 3 LATHES, MILLER, SHAPER, MECHANICAL HACKSAW, GRINDER & BUFFER,  
SLITTING MACHINE, DRILL PRESS, SAW BENCH, AND SMITH'S HEARTH.  
TOOLS AND OTHER FACILITIES ALL ESSENTIAL TOOLS AVAILABLE.PERMANENT MECHANIC AVAILABLE? YES, THREE MECHANICS.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL SOLAR PHYSICS, TERRESTRIAL MAGNETISM, IONOSPHERIC  
STUDIES, AND SOLAR RADIO NOISE.  
POTENTIAL ALL BRANCHES OF ASTROPHYSICS AND RADIO ASTRONOMY.FURTHER REMARKS AND DATA. \* NO RESIDENTIAL ACCOMMODATION AVAILABLE IN THE OBSERVATORY  
FOR VISITING SCIENTISTS. HOWEVER, HOUSES ARE AVAILABLE CLOSE  
BY WHICH CAN BE RENTED. THERE IS ALSO A EUROPEAN TYPE HOTEL  
(CARLTON HOTEL) IN KODAIKANAL TOWN, ABOUT 3 MILES FROM THE  
OBSERVATORY, WHICH PROVIDES BOARD AND LODGING.



Kodaikanal Observatory, India. Altitude about 7688 FT.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: DWARKA ANNEXE, FAIRY FALLS ROAD,  
KODAIKANAL OBSERVATORY POST, MATHURAI DIST. SOUTH INDIA.

FREIGHT ADDRESS IF DIFFERENT: SAME. BUT MENTION KODAIKANAL OUTAGENCY.  
FEET AV. BAROMETRIC

ALTITUDE 7688 FEET GEOMAGNETIC LATITUDE 10° N. N. OR PRESSURE 59 CM.HG

GEOGRAPHIC LATITUDE 10° 15' N. OR GEOGRAPHIC LONGITUDE 77° 20' E. OR

CLIMATE: WINTER: MAX.TEMP. 58° F. OR SUMMER: MAX. TEMP. 72° F. OR  
MIN.TEMP. 48° MIN. TEMP. 59°  
AVERAGE TEMP. 54° AVERAGE TEMP. 65°  
AV.DEPTH OF SNOW NIL FT. AV.DEPTH OF SNOW NIL FT.

OPERATING SEASON: ALL YEAR ROUND, OR FROM --- TO --- INCLUSIVE.

## ACCESS AND TRANSPORT:

FROM: MADRAS TO KODAI ROAD RY. STATION ON MADRAS-MATHURAI LINE  
1. PERSONNEL. RAIL AND THEN BY BUS TO KODAIKANAL HILLS. BY (RAIL) BUS  
2. HEAVY EQUIPMENT: (VIA) SAME ROUTE.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE.
2. STOVE (A) TO BE BROUGHT No. (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES. (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
IN KODAIKANAL TOWN AT A DISTANCE OF 3 MILES

WATER AVAILABLE ALL THE 24 HOURS THERE ARE A NUMBER OF CATERING ESTABLISHMENTS.

## SANITATION SEPTIC TANK AND W.C.

HEATING NIL. ELECTRIC HEATERS CAN BE INSTALLED.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 3 MILES MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT No.  
(B) POWER AVAILABLE YES. POWER AVAILABLE CAN BE INCREASED BY  
ARRANGEMENT WITH THE SUPPLY CO. CONSIDERABLE VOLTAGE  
A.C. POWER 2 KW, 230 VOLTS, 50 CYCLES, SINGLE PHASE. VARI-  
TIONS.  
D.C. POWER - KW, - VOLTS.

SPACE 1500 SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER 1 FUNCTIONS OPERATING COSMIC RAY CONTINUOUS RECORDING UNITS  
ACCOMMODATIONS FOR 2 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION PHYSICAL RESEARCH LABORATORY KODAIKANAL OBSERVATORY.

## ADMINISTRATION:

**I. SPONSORING ORGANIZATION** **PHYSICAL RESEARCH LABORATORY**

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROF. VIKRAM A. SARABHAI  
PHYSICAL RESEARCH LABORATORY, NAVRANGPURA, AHMEDABAD 9, INDIA

**CONDITIONS FOR APPLICATION      AVAILABILITY OF FACILITIES AT FIELD STATION**

**FEE FOR SOJOURN**      **TO BE DECIDED**

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NIL.

BUT PROPER EQUIPMENT (WORKSHOP) AVAILABLE AT THE SOLAR PHYSICS OBSERVATORY  $\frac{1}{2}$  MILE AWAY.

#### **LIGHT EQUIPMENT      SMALL WORKSHOP AND ELECTRICAL MAINTENANCE TOOLS**

**DARK ROOM FACILITIES**      **YES**

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NIL.

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS PER SQ. FOOT KG/SQ. METER

MAXIMUM LOADING OF LABORATORY PRESSURE: TOTAL        POUNDS, OR:        LB/SQ. INCH  
       UNLIMITED.

**THICKNESS AND MATERIAL OF ROOF:** **CORRUGATED IRON SHEETS, 1/8" THICK**

THICKNESS AND MATERIAL OF ROOF: CORRUGATED IRON SHEETS 1/8" THICK

IS ROOF FLAT OR SLANTED? SLANTED

**LIBRARY** \_\_\_\_\_ **AVAILABLE** \_\_\_\_\_

WORK SHOP: MAJOR MACHINES: SHAPING, MILLING MACHINES, LATHES, ETC. IN SOLAR PHYSICS  
OBSERVATORY

TOOLS AND OTHER FACILITIES ALL AVAILABLE

**PERMANENT MECHANIC AVAILABLE?**  YES  NO

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAYS

**POTENTIAL** THEORY OF INVESTMENT OPPORTUNITIES

## FURTHER REMARKS AND DATA.

JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: IXTACCIHUATL  
MEXICO.

**FREIGHT ADDRESS IF DIFFERENT:**

FEET METERS GEOMAGNETIC LATITUDE 29° N. AV. BAROMETRIC  
ALTITUDE \_\_\_\_\_ METERS N. ALTITUDE \_\_\_\_\_ FEET  
PRESSURE CM. HG

GEOGRAPHIC LATITUDE 19° N.      GEOGRAPHIC LONGITUDE 99° W.

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. \_\_\_\_\_  
AV. DEPTH OF SNOW \_\_\_\_\_ FT.  
M.

SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. \_\_\_\_\_  
AV. DEPTH OF SNOW \_\_\_\_\_ FT.  
M.

**OPERATING SEASON: ALL YEAR ROUND,** **X**

## **ACCESS AND TRANSPORT:**

1. PERSONNEL. FROM MEXICO CITY VIA \_\_\_\_\_ BY (AUTO)  
2. HEAVY EQUIPMENT: (VIA)  
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

#### **KITCHEN AND MEAL FACILITIES:**

1. OBSERVERS DO THEIR OWN COOKING. \_\_\_\_\_ COOK AVAILABLE. \_\_\_\_\_
  2. STOVE (A) TO BE BROUGHT \_\_\_\_\_ (B) AVAILABLE. \_\_\_\_\_
  3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. \_\_\_\_\_ (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. \_\_\_\_\_ (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

**WATER**

## **SANITATION**

**HEATING** The heating system consists of a central boiler, which heats water and circulates it through a network of pipes to radiators throughout the building.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. \_\_\_\_\_ MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT

(B) POWER AVAILABLE

A.C. POWER        KW,        VOLTS,        CYCLES,        PHASES.

D.C. POWER        KW,        VOLTS.

SPACE \_\_\_\_\_ SQUARE FEET OR SQUARE METERS.

**PERMANENT STAFF: NUMBER** \_\_\_\_\_ **FUNCTIONS** \_\_\_\_\_

ACCOMODATIONS FOR \_\_\_\_\_ PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION IXTACIHIUATLADMINISTRATION: JEFE DEL DEPARTAMENTO DE FISICA,  
UNIVERSIDAD DE MEXICO1. SPONSORING ORGANIZATION MEXICO D.F., MEXICO.

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE \_\_\_\_\_

CONDITIONS FOR APPLICATION \_\_\_\_\_

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE \_\_\_\_\_

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES \_\_\_\_\_

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_ KG. OR \_\_\_\_\_ KG./SQ. METER

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL \_\_\_\_\_ POUNDS, OR: \_\_\_\_\_ LB./SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? \_\_\_\_\_

LIBRARY \_\_\_\_\_

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES \_\_\_\_\_

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL \_\_\_\_\_

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

STATION POSSIBILITIES AT 14,000 FEET BEING STUDIED.  
LOCATION NEAR MEXICO CITY.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: TEOLOYUCAN, MEXICO D.F. MEXICO

FREIGHT ADDRESS IF DIFFERENT:

ALTITUDE 2300 METERS GEOMAGNETIC LATITUDE 29° N. AV. BAROMETRIC PRESSURE    CM. HGGEOGRAPHIC LATITUDE 19° N. GEOGRAPHIC LONGITUDE 99° W.CLIMATE: WINTER: MAX. TEMP.    F. OR C.SUMMER: MAX. TEMP.    F. OR C.MIN. TEMP.   MIN. TEMP.   AVERAGE TEMP. 10° CAVERAGE TEMP. 20° CAV. DEPTH OF SNOW NO FT.AV. DEPTH OF SNOW NO FT.OPERATING SEASON: ALL YEAR ROUND,

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM MEXICO CITY VIA    BY (AUTO)
2. HEAVY EQUIPMENT: (VIA) TRUCK
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE. YES
2. STOVE (A) TO BE BROUGHT    (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER RUNNINGSANITATION TOILETSHEATING CENTRALAPPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 5 KM.ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT   (B) POWER AVAILABLE YESA.C. POWER 25 KW,    VOLTS,    CYCLES,    PHASE.D.C. POWER    KW,    VOLTS.SPACE    SQUARE FEET OR SQUARE METERS.PERMANENT STAFF: NUMBER 6 FUNCTIONS ASTRONOMERS AND ASSISTANTS.ACCOMODATIONS FOR 6 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION TEOLOYUCAN MEXICO

ADMINISTRATION: DIRECTOR, OBSERVATORIO NACIONAL, TEOLOYUCAN, D.F. MEXICO

1. SPONSORING ORGANIZATION MEXICAN NATIONAL ASTRONOMICAL OBSERVATORY (MEXICAN GOVERNMENT)

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE \_\_\_\_\_

CONDITIONS FOR APPLICATION APPLY TO DIRECTOR

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE \_\_\_\_\_

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES YES

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL            POUNDS, OR:            LB/SQ. FOOT            KG/SQ. METER

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? SLANTEDLIBRARY YES

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES YES

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL ASTRONOMY, COSMIC RAYS

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

MEXICAN NATIONAL ASTRONOMICAL OBSERVATORY

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: MAUNA LOA SUMMIT GEOPHYSICAL OBSERVATORY,  
C/O U.S. WEATHER BUREAU,  
P.O. BOX 3650, HONOLULU, HAWAII

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_ FEET AV. BAROMETRIC INCHES  
 ALTITUDE 13453 GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE 18.40 HG

GEOGRAPHIC LATITUDE 19°26' N. GEOGRAPHIC LONGITUDE 155°36' W.

CLIMATE: WINTER: MAX. TEMP. 49° F. SUMMER: MAX. TEMP. 57° F.  
 MIN. TEMP. 16° MIN. TEMP. 23°  
 AVERAGE TEMP. 32° AVERAGE TEMP. 40°  
 AV. DEPTH OF SNOW LESS FT.  
THAN ONE FT. AV. DEPTH OF SNOW NONE M.

OPERATING SEASON: ALL YEAR ROUND, \_\_\_\_\_

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM HILO, HAWAII VIA ROAD (4 WHEEL DRIVE  
VEHICLE ABOVE 9000 FT.) 50 MILES
2. HEAVY EQUIPMENT: (VIA) SAME.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NOT SUITABLE  
FOR ROAD ABOVE THE 9000 FT. LEVEL, ALTHOUGH CONVENIENT FOR OTHER PURPOSES.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. NO
2. STOVE (A) TO BE BROUGHT - (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
IN HILO, HAWAII.

WATER BROUGHT UP BY TRUCK.

SANITATION NO INSTALLED FACILITIES.

HEATING KEROSENE COOK STOVE.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 50 MI. (HILO)

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT YES

(B) POWER AVAILABLE NONE

A.C. POWER KW, VOLTS, CYCLES, PHASE.

D.C. POWER KW, VOLTS.

SPACE APPROX. 70 SQUARE FEET

PERMANENT STAFF: NUMBER NONE FUNCTIONS \_\_\_\_\_

ACCOMODATIONS FOR No PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION MAUNA LOA SUMMIT GEOPHYSICAL LABORATORY

## ADMINISTRATION:

1. SPONSORING ORGANIZATION U.S. WEATHER BUREAU2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. FRANCIS W.REICHELDERFER, U. S. WEATHER BUREAU, WASHINGTON 25, D.C.CONDITIONS FOR APPLICATION REQUEST TO ABOVE OR U.S. WEATHER BUREAU, HONOLULU, HAWAII.FEE FOR SOJOURN NONE.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NONE ATTACHED TO OBSERVATORY(EXCEPT 4-WHEEL DRIVE VEHICLE) BUT AVAILABLE IN HILO, HONOLULU AND ELSEWHERE.LIGHT EQUIPMENT DITTODARK ROOM FACILITIES NONEANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONEMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: KG/OR KG/SQ. METER  
LB/SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? SLANTEDLIBRARY None AT OBSERVATORY SITE BUT AVAILABLE ELSEWHERE (HILO, HONOLULU, ETC.)WORK SHOP: MAJOR MACHINES: DITTOTOOLS AND OTHER FACILITIES DITTOPERMANENT MECHANIC AVAILABLE? DITTOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL METEOROLOGYPOTENTIAL ATMOSPHERIC ELECTRICITY, OZONE, SOLAR AND  
NIGHT SKY RADIATION, RADIO (AND OTHER) ASTRONOMY

FURTHER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: NO NAME. LOCATED AT KOLE KOLE.MAIL ADDRESS: GROTE REBER, GENERAL DELIVERY, WAILUKU, MAUI.TERITORY OF HAWAII, U.S.A.

FREIGHT ADDRESS IF DIFFERENT:

10,020 FEET  
ALTITUDE 3067 METERS GEOMAGNETIC LATITUDE ABOUT 21° N. AV. BAROMETRIC INCHES  
PRESSURE 20.6 HGGEOGRAPHIC LATITUDE 20.8° N. OR S. GEOGRAPHIC LONGITUDE 156.3° W.CLIMATE: WINTER: MAX.TEMP. 50° F. OR C.  
MIN.TEMP. 30°  
AVERAGE TEMP. 40°  
AV.DEPTH OF SNOW TRACE FT. SUMMER: MAX. TEMP. 60° F. OR C.  
MIN. TEMP. 40°  
AVERAGE TEMP. 50°  
AV.DEPTH OF SNOW NONE FT.OPERATING SEASON: ALL YEAR ROUND,ACCESS AND TRANSPORT: 35 OR 40 MINUTES BY AUTO FROM RESIDENCE IN KULA AT 3500 FEET ELEVATION.  
90 MINUTES FROM MAIN TOWN OF WAILUKU AT SEA LEVEL.

1. PERSONNEL. FROM \_\_\_\_\_ VIA \_\_\_\_\_ BY (RAIL)(AUTO) \_\_\_\_\_

2. HEAVY EQUIPMENT: (VIA) \_\_\_\_\_

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? \_\_\_\_\_

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. \_\_\_\_ COOK AVAILABLE. \_\_\_\_\_

2. STOVE (A) TO BE BROUGHT \_\_\_\_ (B) AVAILABLE. \_\_\_\_\_

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. \_\_\_\_\_ (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
WAILUKUWATER YESSANITATION YES, AT 1/2 MILEHEATING YESAPPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 35 MI.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE YESA.C. POWER 10 KW, 220 VOLTS, 60 CYCLES, 3 PHASE.D.C. POWER NONE, 0 VOLTS.SPACE UNLIMITED SQUARE FEET OR SQUARE METERS.PERMANENT STAFF: NUMBER 1 FUNCTIONS JACK OF ALL TRADESACCOMODATIONS FOR NONE PERSONS IN ADDITION TO PERMANENT STAFF IF ANY. MAKE OWN ARRANGEMENTS.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION NO NAME. LOCATED AT KOLE KOLE

## ADMINISTRATION:

1. SPONSORING ORGANIZATION RESEARCH CORPORATION2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE GROTE REBERWAIKULU, MAUI, TERRITORY OF HAWAII, U.S.A.

CONDITIONS FOR APPLICATION \_\_\_\_\_

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE \_\_\_\_\_

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES NONE

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_

KG. OR KG/SQ. METER  
POUNDS, OR: LB/SQ. FOOT

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL \_\_\_\_\_

THICKNESS AND MATERIAL OF ROOF: \_\_\_\_\_

IS ROOF FLAT OR SLANTED? FLATLIBRARY NONEWORK SHOP: MAJOR MACHINES: NONETOOLS AND OTHER FACILITIES MOSTLY HAND TOOLSPERMANENT MECHANIC AVAILABLE? NOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL RADIO ASTRONOMY AND METEOROLOGY

POTENTIAL \_\_\_\_\_

## FURTHER REMARKS AND DATA.

THIS IS A SHOESTRING VENTURE. NOT EXPECTED TO BE A PERMANENT INSTALLATION.  
OTHERS WILL BE WELCOME, BUT HAVE TO MAKE ALL THEIR OWN ARRANGEMENTS AND FIND  
THEIR OWN LIVING QUARTERS.

GROTE REBER

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: SACRAMENTO PEAK  
SOUTHEASTERN NEW MEXICO U.S.A.

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_ FEET AV. BAROMETRIC

ALTITUDE 9200 GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE \_\_\_\_\_ CM.HG

GEOGRAPHIC LATITUDE 32° 47' N. GEOGRAPHIC LONGITUDE 105° 49' W.

CLIMATE: WINTER: MAX.TEMP. \_\_\_\_\_ F. OR C.  
 RELATIVELY MILD MIN.TEMP. \_\_\_\_\_  
 NOVEMBER THRU AVERAGE TEMP. \_\_\_\_\_  
 APRIL. AV.DEPTH OF SNOW 0 TO 2 FT. SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
 MIN. TEMP. \_\_\_\_\_  
 AVERAGE TEMP. \_\_\_\_\_  
 AV.DEPTH OF SNOW FT. M.

OPERATING SEASON: ALL YEAR ROUND, \_\_\_\_\_

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM ALAMOGORDO- 42 MILES. FIRST 20 TO 25 MILES IS BY (AUTO) YEAR-ROUND PAVED HIGHWAY.
2. HEAVY EQUIPMENT: (XXX) TRANSPORT: HIGHWAY VEHICLES, UP TO LARGE TRAILER TRUCK.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE.
2. STOVE (A) TO BE BROUGHT (B) AVAILABLE.
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. NONE (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER DOMESTIC DRINKING WATER PRESSURE SUPPLY AVAILABLE. LARGE AMOUNTS FOR COOLING COILS  
AVAILABLE ONLY IF RECIRCULATED.

SANITATION \_\_\_\_\_

HEATING PROPANE GAS.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. \_\_\_\_\_ MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO.

(B) POWER AVAILABLE 110-220 SINGLE PHASE. POSSIBLY THREE-PHASE LATER.

A.C. POWER KW, 110-220 VOLTS, CYCLES, 1 PHASE.

D.C. POWER KW, VOLTS.

SPACE SPACE FOR APPROXIMATELY 25 WORKING SCIENTISTS

PERMANENT STAFF: NUMBER 12 TO 15 FUNCTIONS

ACCOMODATIONS FOR 10 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION SACRAMENTO PEAK, SOUTHEASTERN NEW MEXICO, U.S.A.ADMINISTRATION: DR. DONALD MENZEL, HARVARD COLLEGE OBSERVATORY, 60 GARDEN ST. CAMBRIDGE 38  
MASSACHUSETTS1. SPONSORING ORGANIZATION U.S. AIR FORCE MAINTAINS BASIC FACILITIES \*2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. DONALD H. MENZEL,HARVARD COLLEGE OBSERVATORY, 60 GARDEN STREET, CAMBRIDGE 38, MASSACHUSETTS.CONDITIONS FOR APPLICATION CORRESPONDENCE WITH PROJECT SUPERVISOR(DR. MENZEL); APPROVAL OF  
U.S. AIR FORCE

FEE FOR SOJOURN \_\_\_\_\_

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE CORONAGRAPH AND ASTRONOMICAL  
INSTRUMENTS, INCLUDING PROMINENCE CAMERA, AND FLARE-OBSERVING CAMERA.

LIGHT EQUIPMENT \_\_\_\_\_

DARK ROOM FACILITIES YES.

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS \_\_\_\_\_

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: KG/OR KG/SQ. METER  
FLOORS AND ROOFS NOT DESIGNED FOR HEAVY LOADS LB/SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: SEVERAL QUONSET BUILDINGS(THIN CORRUGATED IRON SHEETING)  
AVAILABLE, PLUS LABORATORY WITH MASONRY CONSTRUCTION.  
IS ROOF FLAT OR SLANTED? HEMI-CYLINDRICAL.LIBRARY NONE AT PRESENT, FULL TECHNICAL LIBRARY PROJECTED.WORK SHOP: MAJOR MACHINES: SMALL WORKSHOP WITH LATHE, BAND SAW, DRILL PRESS, AND HAND TOOLS  
AVAILABLE AT PRESENT.

TOOLS AND OTHER FACILITIES \_\_\_\_\_

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL SOLAR ASTRONOMY.

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

\* HARVARD UNIVERSITY UNDER RESEARCH CONTRACT OPERATES SCIENTIFIC PROGRAM  
OF SOLAR OBSERVATIONS. CORNELL UNIVERSITY OPERATES SMALLER RADIO ASTRONOMY  
PROGRAM. PROJECT SUPERVISOR FOR HARVARD RESEARCH: DR. MENZEL.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: GULMARG RESEARCH OBSERVATORY  
GULMARG, KASHMIR,  
INDIA

FREIGHT ADDRESS IF DIFFERENT: DITTO  
 FEET

ALTITUDE 9000 GEOMAGNETIC LATITUDE 24° 36' N. OR AV. BAROMETRIC  
 PRESSURE 57 CM.HG

GEOGRAPHIC LATITUDE 34° 03' N. OR GEOGRAPHIC LONGITUDE 74° 24' E. OR

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
 MIN. TEMP. \_\_\_\_\_  
 AVERAGE TEMP. \_\_\_\_\_  
 AV. DEPTH OF SNOW 12 SUMMER: MAX. TEMP. 80° F. OR  
 MIN. TEMP. 30°  
 AVERAGE TEMP. 60°  
 AV. DEPTH OF SNOW NIL FT.

OPERATING SEASON: OR FROM APRIL 15 TO NOVEMBER 15 INCLUSIVE.

ACCESS AND TRANSPORT: DELHI VIA PLANE TO SRINAGAR

1. PERSONNEL. FROM DELHI VIA SEE\* BY (RAIL)(AUTO) \_\_\_\_\_
2. HEAVY EQUIPMENT: (VIA) TRAIN TO PATHANKOT AND BEYOND BY AUTO
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NO

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. NO COOK AVAILABLE. YES
2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. STOVES, WOOD FOR WHICH IS AVAILABLE CHEAPLY
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR )  
 (B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
IN GULMARG

WATER TAP WATER AVAILABLE

SANITATION NO FLUSH BUT COMMODES AVAILABLE

HEATING FIRE PLACES IN EACH ROOM FOR BURNING WOOD.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. ONE MI. OR

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT SEE @

(B) POWER AVAILABLE YES

A.C. POWER 5 KW, 220 VOLTS, 25 CYCLES, SINGLE PHASE.

D.C. POWER NIL KW, NIL VOLTS.

SPACE ABOUT 5000 SQUARE FEET

PERMANENT STAFF: NUMBER 3 FUNCTIONS 1. DIRECTOR 3. WATCHMAN  
2. RESEARCH OFFICER (VACANT AT PRESENT)

ACCOMODATIONS FOR 12 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION GULMARG RESEARCH OBSERVATORY

## ADMINISTRATION:

1. SPONSORING ORGANIZATION UNIVERSITIES OF ALIGARH AND JAMMU-KASHMIR  
 2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROF. P.S.GILL (DIRECTOR)  
HEAD OF THE DEPARTMENT OF PHYSICS, MUSLIM UNIVERSITY, ALIGARH, U.P. (INDIA)

CONDITIONS FOR APPLICATION NONE SO FARFEE FOR SOJOURN NILHEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE GASOLINE GENERATORS OF TOTAL CAPACITY 5 KWLIGHT EQUIPMENT ELECTRONIC SUPPLIES, TESTING APPARATUS.DARK ROOM FACILITIES YESANIMAL HOUSING FACILITIES FOR BIOLOGISTS ARRANGEMENTS CAN BE MADE.  
 MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL KG. OR POUNDS, OR: KG./SQ. METER LB./SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: ONE INCH OF PINE WOOD WITH AND WITHOUT GALVANIZED CORRUGATED IRON SHEETS.IS ROOF FLAT OR SLANTED? SLANTINGLIBRARY NILWORK SHOP: MAJOR MACHINES: NILTOOLS AND OTHER FACILITIES ORDINARY WORKING TOOLSPERMANENT MECHANIC AVAILABLE? NO.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAYSPOTENTIAL GEOLOGICAL, BOTANICAL, ATMOSPHERIC ELECTRICITY AND TERR. MAGNETISM, ETC.

## FURTHER REMARKS AND DATA.

\* FROM DELHI TO PATHANKOT VIA AIR, RAIL, AUTO.

FROM PATHANKOT TO TANGAMARG (FOUR MILES BELOW OBSERVATORY) BY CAR, TRUCK

FROM TANGAMARG TO OBSERVATORY BY JEEP.

@ THE VOLTAGE IS FLUCTUATING AND GOES DOWN TO 160 VOLTS.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

## DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: CAPILLO PEAK OBSERVATORY (NO MAILING ADDRESS)WRITE TO: DEPARTMENT OF PHYSICS, UNIVERSITY OF NEW MEXICO,  
ALBUQUERQUE, NEW MEXICO.

EIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

FEET

ITUDE 9,200 GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE 53.9 CM.HGOGRAPHIC LATITUDE 34° 41' 53" N. GEOGRAPHIC LONGITUDE 106° 24' 13" W.IMATE: WINTER: MAX. TEMP. 60° F.SUMMER: MAX. TEMP. 90° F.MIN. TEMP. 0°MIN. TEMP. 50°AVERAGE TEMP. 35° F.AVERAGE TEMP. 70° F.AV.DEPTH OF SNOW 1 FT.AV.DEPTH OF SNOW -- FT.ERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

## CESS AND TRANSPORT:

1. PERSONNEL. FROM ALBUQUERQUE VIA \_\_\_\_\_ BY (AUTO) AUTO
2. HEAVY EQUIPMENT: (VIA) SAME
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? \_\_\_\_\_

## ITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. \_\_\_\_\_
2. STOVE (A) TO BE BROUGHT \_\_\_\_\_ (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
ALBUQUERQUE OR TOWNS NEARER OBSERVATORY

WATER NEARBY SPRING AND STORAGE TANK FOR WATER HAULED BY TRUCK.SANITATION OUTHOUSEHEATING BUTANE AND PROPANE GASAPPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 22 MI.ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT  
 (B) POWER AVAILABLE MOTOR GENERATORSA.C. POWER 5 KW, 115 VOLTS, 60 CYCLES, SINGLE PHASE.D.C. POWER --- KW,    VOLTS.SPACE 1300 SQUARE FEETPERMANENT STAFF: NUMBER 1 FUNCTIONS OBSERVATION OF ASTROPHYSICAL NATURE AND COSMIC RADIATION.ACCOMODATIONS FOR 2 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION CAPILLO PEAK OBSERVATORY

## ADMINISTRATION:

1. SPONSORING ORGANIZATION DEPARTMENT OF PHYSICS, UNIVERSITY OF NEW MEXICO.  
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. VICTOR H. REGENER,  
DEPARTMENT OF PHYSICS, UNIVERSITY OF NEW MEXICO, ALBUQUERQUE, N. M.

**CONDITIONS FOR APPLICATION BY ARRANGEMENT WITH ABOVE**

Fee for sojourn      None

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE 6 TONS OF LEAD SHEET

SEMI-PERMANENTLY AVAILABLE.

LIGHT EQUIPMENT    VARIOUS ITEMS OF ELECTRONIC NATURE.

DARK ROOM FACILITIES OBSERVATORY HAS DARKROOM

## ANIMAL HOUSING FACILITIES FOR BIOLOGISTS      NONE

**MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL**

KG. OR

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: 1000 LB/SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: 0.5 GMS PER SQ. CM GALVANIZED IRON AND 0.07 GMS. PER SQ.  
CM INSULATION\*.

IS ROOF FLAT OR SLANTED? SLANTED

LIBRARY AT UNIVERSITY OF NEW MEXICO.

WORK SHOP: MAJOR MACHINES: COMPLETE MACHINE SHOP AT DEPT. OF PHYSICS, UNIV. OF NEW MEXICO

**TOOLS AND OTHER FACILITIES LIGHT TOOLS AND DRILL PRESS AT OBSERVATORY**

PERMANENT MECHANIC AVAILABLE? AT PHYSICS DEPT. - UNIVERSITY OF NEW MEXICO

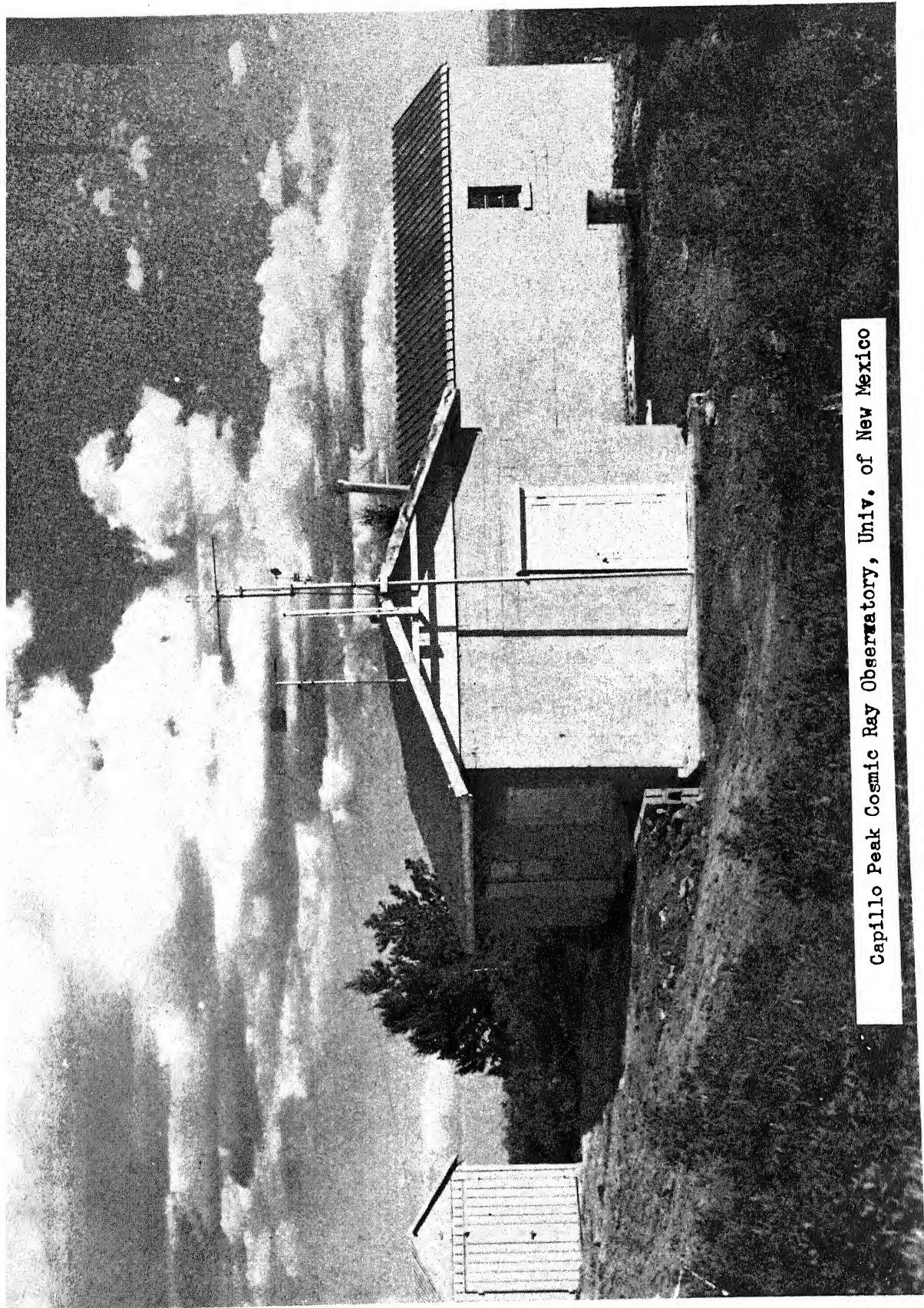
SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RADIATION; ASTROPHYSICAL AND ATMOSPHERIC OBSERVATIONS.  
POTENTIAL

#### FURTHER REMARKS AND DATA.

THE OBSERVATORY IS LOCATED ON TOP OF AN EXPOSED RIDGE 9 MILES FROM THE NEAREST VILLAGE AND 65 MILES BY AUTO FROM ALBUQUERQUE, NEW MEXICO.

**PERMANENT RADIO CONTACT WITH DEPT. OF PHYSICS, UNIVERSITY OF NEW MEXICO.**

\* IN COSMIC RAY WING OF BUILDING. 432 SQ. FT. FLOOR AREA



Capillo Peak Cosmic Ray Observatory, Univ. of New Mexico

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: MOUNT FUJI WEATHER STATIONSHIZUOKA-PREFECTURE, JAPANFREIGHT ADDRESS IF DIFFERENT: GOTEMBA OFFICE, FUJI WEATHER STATION, TAMANO-MURA, SUNTO-GUN,  
SHIZUOKA PREFECTURE AV. BAROMETRIC  
ALTITUDE 3772.0 METERS GEOMAGNETIC LATITUDE 25°13' N. N. OR S. PRESSURE 47.8 CM.HGGEOGRAPHIC LATITUDE 35°21' N. GEOGRAPHIC LONGITUDE 138°44' E.CLIMATE: WINTER: MAX. TEMP. -16.9° C.  
MIN. TEMP. -23.3° C.  
AVERAGE TEMP. -21.3° C.  
AV. DEPTH OF SNOW 0.8 M.SUMMER: MAX. TEMP. 9.4° C.  
MIN. TEMP. 3.0° C.  
AVERAGE TEMP. 7.1° C.  
AV. DEPTH OF SNOW 0 FT.  
M.OPERATING SEASON: ALL YEAR ROUND,

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM GOTEMBA VIA TAROBO BY AUTO PARTLY  
AND ON FOOT PARTLY.
2. HEAVY EQUIPMENT: (VIA) DO.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

## KITCHEN AND MEAL FACILITIES: ( AVAILABLE ONLY BELOW)

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE. YES
2. STOVE (A) TO BE BROUGHT (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER RAIN WATER IS USED BY MEANS OF A 1.8M X 2M X 2M TANK.SANITATION ONLY SOME SIMPLE REMEDIES ARE PROVIDED FOR.HEATING A CHARCOAL STOVE AND ELECTRIC HEATERS AVAILABLE.APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 21 KM.ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO(B) POWER AVAILABLE YESA.C. POWER 17 KW, 100 VOLTS, 50 CYCLES, 3 PHASE.D.C. POWER 12 KW, 100 VOLTS.SPACE 330 SQUARE METERS.PERMANENT STAFF: NUMBER 6 FUNCTIONS 1 OPERATOR, 4 OBSERVERS, AND 1 COOK.ACCOMODATIONS FOR 4-9 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION MOUNT FUJI WEATHER STATION.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION CENTRAL METEOROLOGICAL OBSERVATORY, A JAPANESE GOV'T AGENCY.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE KIYOO WADATI, DIRECTOR,  
CENTRAL METEOROLOGICAL OBSERVATORY, 1-7 OTE-MACHI, CHIYODA-KU, TOKYO.CONDITIONS FOR APPLICATION PERMISSION OF THE DIRECTOR OF THE CENTRAL METEOROLOGICAL OBSERVATORY, TOKYO, MUST BE GRANTED.FEE FOR SOJOURN PRIME COST INCLUDING THAT FOR FOOD IS CHARGED.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE WIND TUNNEL WITH NATURAL WIND;  
WITH A MEASURING SPACE OF CIRCULAR SECTION OF 1 METER IN DIAMETER, AND WITH ACCESSORIES.LIGHT EQUIPMENT ACCUMULATORS (110 V, 108 AH.), GENERATOR (9H), SHORT WAVE RADIOS.DARK ROOM FACILITIES AVAILABLE.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.MAXIMUM LOADING OF LABORATORY FLOOR; TOTAL POUNDS, OR: \_\_\_\_\_ LB/SQ. FOOT  
BOTH FLOOR AND ROOF ARE OF WOOD, SO NO HEAVY APPARATUSTHICKNESS AND MATERIAL OF ROOF: CAN BE INSTALLED. WOOD ROOF, COVERED WITH SHEET-IRON,  
IS ABOUT 20 CM THICK.IS ROOF FLAT OR SLANTED? SLANTED.LIBRARY NONE.WORK SHOP: MAJOR MACHINES: NONE.TOOLS AND OTHER FACILITIES SOME HAND TOOLS FOR MINOR MANUAL WORK ARE PROVIDED.PERMANENT MECHANIC AVAILABLE? No.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL EXPERIMENTS ON RIME ICE ACCRETION.POTENTIAL OBSERVATION OF COSMIC RAYS.

FURTHER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: CACTUS PEAK, CALIFORNIAFREIGHT ADDRESS IF DIFFERENT: INYOKERN, CALIFORNIAFEET ALTITUDE 5415 GEOMAGNETIC LATITUDE 43° AV. BAROMETRIC N. OR S. PRESSURE 62 CM.HGGEOGRAPHIC LATITUDE 36°04'41" N. OR GEOGRAPHIC LONGITUDE 117°48'54" W.CLIMATE: WINTER: MAX. TEMP. 50° F. OR  
MIN. TEMP. 0°  
AVERAGE TEMP.  
AV. DEPTH OF SNOW 2"SUMMER: MAX. TEMP. 110° F. OR  
MIN. TEMP. 40°  
AVERAGE TEMP.  
AV. DEPTH OF SNOW -- FT.  
M.OPERATING SEASON: ALL YEAR ROUND, OR

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM BURBANK - INYOKERN VIA S.W. AIRLINES BY AIR.
2. HEAVY EQUIPMENT: (VIA) TRUCK OVER HIGHWAY 6 TO COSO JUNCTION.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE.
2. STOVE (A) TO BE BROUGHT        (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
AT COSO JUNCTION, 8 MILES FROM STATION.

WATER STORAGE TANK FOR WASHING; DRINKING WATER MUST BE BROUGHT BY OBSERVERS.SANITATION OUTDOOR TOILET.HEATING BUTANE STOVEAPPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 50 MI. OR XX.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT

(B) POWER AVAILABLE YESA.C. POWER 7½ KW, 220 VOLTS, 60 CYCLES, SINGLE PHASE.D.C. POWER -- KW,        VOLTS.SPACE        SQUARE FEET OR SQUARE METERS.PERMANENT STAFF: NUMBER        FUNCTIONS STAFF GOES TO PEAK ONLY FOR OBSERVATIONS DURING DARK OF MOON.ACCOMODATIONS FOR 4 PERSONS TOTAL.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION CACTUS PEAK, CALIFORNIA

## ADMINISTRATION:

1. SPONSORING ORGANIZATION U.S. NAVAL ORDNANCE TEST STATION2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE F. F. ROACH,CODE 5002, MICHELSON LABORATORY, CHINA LAKE, CALIFORNIA.CONDITIONS FOR APPLICATION ADVANCE ARRANGEMENT IN WRITING.FEE FOR SOJOURN PARTY SHOULD BE SELF-SUSTAINED SO FAR AS FOOD IS CONCERNED.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NONE.LIGHT EQUIPMENT NONE.DARK ROOM FACILITIES NONEANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONEMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: KG/OR KG/SQ. METER  
LB/SQ. FOOT

THICKNESS AND MATERIAL OF ROOF:

IS ROOF FLAT OR SLANTED? QUONSET HUT.LIBRARY NONE.WORK SHOP: MAJOR MACHINES: NONETOOLS AND OTHER FACILITIES HAND TOOLS ONLY.PERMANENT MECHANIC AVAILABLE? NoSCIENTIFIC FIELDS OF RESEARCH: ACTUAL NIGHTGLOW, ZODIACAL LIGHTPOTENTIAL DAY SKY MEASUREMENTS, ASTRONOMICAL STUDIES.

FURTHER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION1 AND ADDRESS OF STATION: MT. NORIKURA COSMIC-RAY LABORATORYNEUGAWA-MURA, OONA-GUN, GIFU-PREFECTURE, JAPAN.

IGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

ITUDE 2840 METERS GEOMAGNETIC LATITUDE 25.7° N. AV. BAROMETRIC  
PRESSURE 53 CM.HGGRAPHIC LATITUDE 36°06' N. GEOGRAPHIC LONGITUDE 137°33' E.MATE: WINTER: MAX.TEMP. +2°C. SUMMER: MAX. TEMP. 19° C.  
MIN.TEMP. -42°C. MIN. TEMP. -2°C.  
AVERAGE TEMP. -25°C. AVERAGE TEMP. 10°C.  
AV.DEPTH OF SNOW 10 M. AV.DEPTH OF SNOW 0 M.RATING SEASON: ALL YEAR ROUND, \_\_\_\_\_

ESS AND TRANSPORT:

1. PERSONNEL. FROM TAKAYAMA BY AUTO BUT IN WINTER, FROM  
OONOGAWA TOWN, NAGANO-PREF. ON SKIS.2. HEAVY EQUIPMENT: (VIA) TAKAYAMA ONLY IN SUMMER.3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

ITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE. YES2. STOVE (A) TO BE BROUGHT (B) AVAILABLE. YES3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.TER IN SUMMER, PUMPING UP FROM A POND. IN WINTER, BY MELTING SNOW.INITIATION NONEATING HOT AIR HEATING BY OIL BURNERPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 52 KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE AVAILABLEA.C. POWER 25 KW, 100 VOLTS, 50 CYCLES, 2 PHASE.D.C. POWER 60 KW, 220 VOLTS.PACE 485

SQUARE METERS.

PERMANENT STAFF: NUMBER 2 FUNCTIONS DIESEL ENGINE OPERATORSCOMMODATIONS FOR 25 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION Mt. NORIKURA COSMIC RAY LABORATORY

## ADMINISTRATION:

1. SPONSORING ORGANIZATION GOVERNMENTAL2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROF. M. HIRATAC/O TOKYO UNIVERSITY, BUNKYO-KU, TOKYO, JAPANCONDITIONS FOR APPLICATION COSMIC-RAY PHYSICIST, APPROVED BY THE EXECUTIVE COMMITTEE.FEE FOR SOJOURN ABOUT \$2.00 A DAYHEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE 2 ELECTROMAGNETS (60 KW), 2  
DIESEL ENGINES (150 HP)

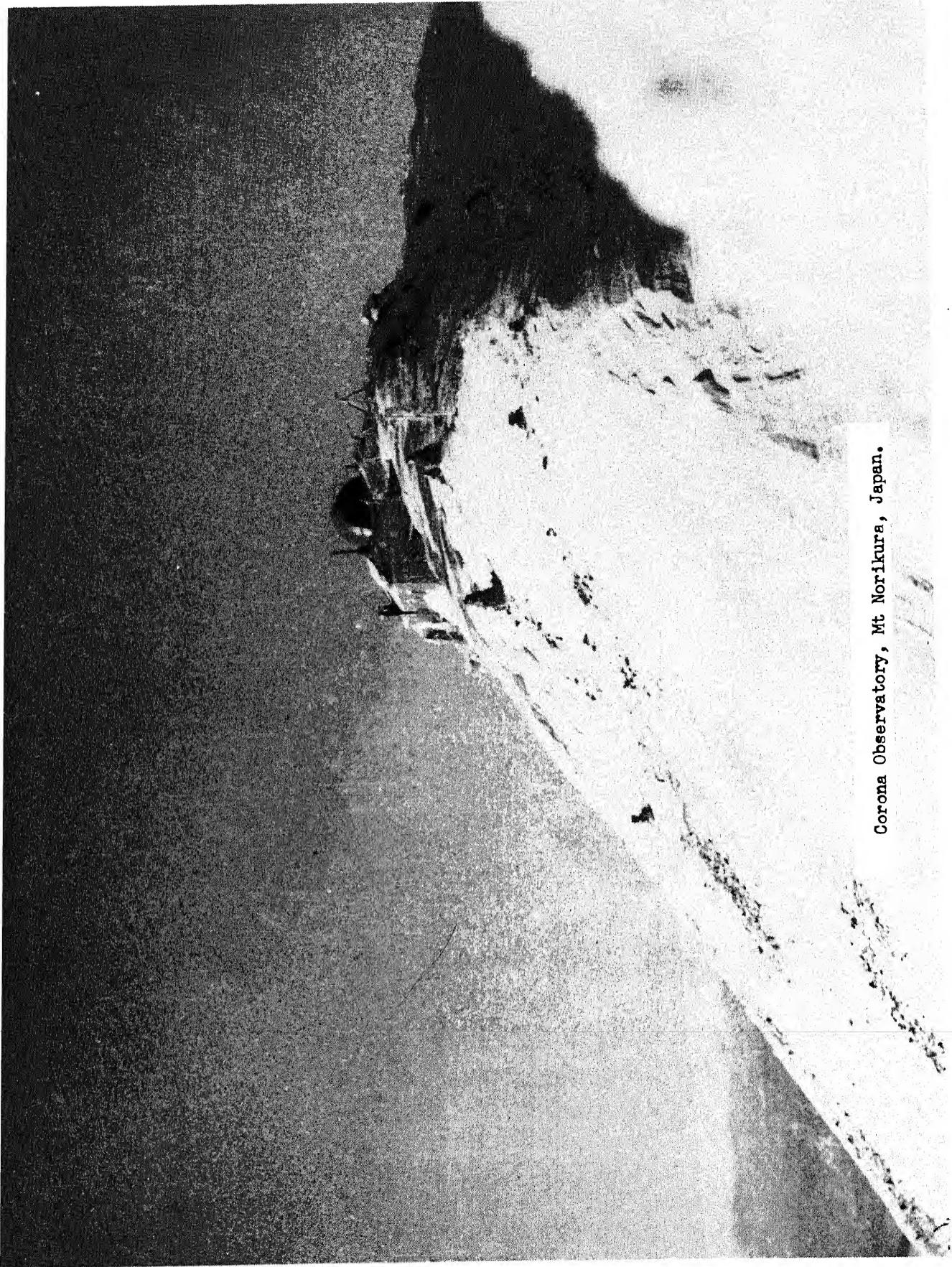
LIGHT EQUIPMENT

DARK ROOM FACILITIES ONEANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE /SQ. METERMAXIMUM LOADING OF LABORATORY FLOOR; TOTAL 450 TONTHICKNESS AND MATERIAL OF ROOF: 18 MM THICK CEDAR PLATE, COVERED BY 0.3 MM COPPERIS ROOF FLAT OR SLANTED? SLANTEDLIBRARY NONEWORK SHOP: MAJOR MACHINES: 4 FOOT LATHE, A DRILLING MACHINE,TOOLS AND OTHER FACILITIES ORDINARY ONES AVAILABLEPERMANENT MECHANIC AVAILABLE? NONESCIENTIFIC FIELDS OF RESEARCH: ACTUAL SECONDARY COSMIC-RAY,

POTENTIAL

## FURTHER REMARKS AND DATA.

THIS LABORATORY IS NOW UNDER CONSTRUCTION, AND WILL BE OPENED IN AUGUST, 1954



Corona Observatory, Mt Norikura, Japan.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: NORIKURA CORONA STATION OF THE TOKYO ASTRONOMICAL OBSERVATORY;

Mt. NORIKURA, Gifu Prefecture and Nagano Prefecture, JapanFREIGHT ADDRESS IF DIFFERENT: Post Office: HATAHOKO, Gifu Prefecture in summer; SHIMAJIMA,  
Nagano Prefecture in winter.ALTITUDE 2876 METERS GEOMAGNETIC LATITUDE 25. 7° N. AV. BAROMETRICPRESSURE 53 CM.HGGEOGRAPHIC LATITUDE 36. 1° N. GEOGRAPHIC LONGITUDE 137. 5° E.CLIMATE: WINTER: MAX.TEMP. +2° C.  
MIN.TEMP. -42° "  
AVERAGE TEMP. -25° "  
AV.DEPTH OF SNOW 10 M.SUMMER: MAX. TEMP. +19° C.  
MIN. TEMP. -2° "  
AVERAGE TEMP. +5° "  
AV.DEPTH OF SNOW 0 M.

OPERATING SEASON: ALL YEAR ROUND,

ACCESS AND TRANSPORT: FROM TAKAYAMA BY AUTO IN SUMMER.

FROM DONOGAWA TOWN, NAGANO PREFECTURE ON FOOT OR BY SKIS IN WINTER.

1. PERSONNEL. FROM \_\_\_\_\_ VIA \_\_\_\_\_ BY (RAIL)(AUTO) \_\_\_\_\_

2. HEAVY EQUIPMENT: (VIA) TAKAYAMA ONLY IN SUMMER.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. \_\_\_\_\_

2. STOVE (A) TO BE BROUGHT (B) AVAILABLE. YES \_\_\_\_\_

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
TAKAYAMA OR MATSUMOTO.

WATER RAIN AND POND WATER IN SUMMER; SNOW IN WINTER.

SANITATION ONLY SOME DRUGS FOR THE FIRST AID.

HEATING COAL STORE.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 52 KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE YES \_\_\_\_\_

A.C. POWER 15 KW, 220 VOLTS, 60 CYCLES, 3 PHASE.D.C. POWER 0.5 KW, 24 VOLTS.SPACE 200

SQUARE METERS.

PERMANENT STAFF: NUMBER 5 OR 6 FUNCTIONS OBSERVERS AND CARETAKER,  
IN TURNACCOMODATIONS FOR 0 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION NORIKURA CORONA STATION OF THE TOKYO ASTRONOMICAL OBSERVATORY.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION TOKYO UNIVERSITY. GOVERNMENTAL.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE YUSUKE HAGIHARA, DIRECTOR,  
TOKYO ASTRONOMICAL OBSERVATORY, MITAKA NEAR TOKYO.CONDITIONS FOR APPLICATION NO SPACE FOR OTHER WORKS.FEE FOR SOJOURN ABOUT \$ 3.00 A DAY AT THE COTTAGE IN THE NEIGHBORHOOD.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE 12 CM CORONAGRAPH;  
48 HP DIESEL ENGINE.LIGHT EQUIPMENT RADIO APPARATUS.DARK ROOM FACILITIES A SMALL DARK ROOM WITHOUT WATER SUPPLY.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: 180 KG/OR KG/SQ. METERTHICKNESS AND MATERIAL OF ROOF: WOOD PLANK 2CM THICK.IS ROOF FLAT OR SLANTED? SLANTED.LIBRARY NONE.WORK SHOP: MAJOR MACHINES: NONETOOLS AND OTHER FACILITIES NONE.PERMANENT MECHANIC AVAILABLE? NOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL SOLAR PHYSICS.POTENTIAL NO.

FURTHER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: LAKE SABRINA  
BISHOP, CALIFORNIA.

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_  
 FEET AV. BAROMETRIC

ALTITUDE 2765 GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE \_\_\_\_\_ CM.HG

GEOGRAPHIC LATITUDE 37.5° N. GEOGRAPHIC LONGITUDE 118° W.

CLIMATE: WINTER: MAX. TEMP. 50° F. SUMMER: MAX. TEMP. 80° F.  
 MIN. TEMP. 0° MIN. TEMP. 40°  
 AVERAGE TEMP. 32° AVERAGE TEMP. 60°  
 AV. DEPTH OF SNOW 10 FT. AV. DEPTH OF SNOW 0 FT.

OPERATING SEASON: FROM MAY TO OCTOBER INCLUSIVE.

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM BERKELEY VIA SONORA BY (AUTO) AUTO
2. HEAVY EQUIPMENT: (VIA) BAKERSFIELD.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE. \_\_\_\_\_
2. STOVE (A) TO BE BROUGHT YES. (B) AVAILABLE. \_\_\_\_\_
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES. (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. NO. (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
IN BISHOP, DISTANCE 19 MILES.

WATER PLENTY AVAILABLE.

SANITATION PRIMITIVE.

HEATING NON-EXISTENT.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 19 MI.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE YES.

A.C. POWER 25 KW, 220 VOLTS, 60CYCLES,        PHASE.

D.C. POWER NONE KW,        VOLTS.

SPACE \_\_\_\_\_ SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER NONE FUNCTIONS \_\_\_\_\_

ACCOMODATIONS FOR \_\_\_\_\_ PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION LAKE SABRINA

## ADMINISTRATION:

1. SPONSORING ORGANIZATION U.S. FOREST SERVICE.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE FOREST SUPERVISOR,  
BISHOP, CALIFORNIA.

CONDITIONS FOR APPLICATION \_\_\_\_\_

FEE FOR SOJOURN NONE.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NONE.LIGHT EQUIPMENT NONE.DARK ROOM FACILITIES NONE.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: LB/SQ. FOOT KG/OR METERTHICKNESS AND MATERIAL OF ROOF: 0 G/CM<sup>2</sup>

IS ROOF FLAT OR SLANTED? \_\_\_\_\_

LIBRARY NONE.WORK SHOP: MAJOR MACHINES; NONE.TOOLS AND OTHER FACILITIES NONE.PERMANENT MECHANIC AVAILABLE? NONE.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAYS.

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

U. S. FOREST SERVICE CAMPGROUND FACILITIES AVAILABLE.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: WHITE MOUNTAIN RESEARCH STATION  
P.O. Box 31  
BIG PINE, CALIFORNIA.

FREIGHT ADDRESS IF DIFFERENT: SAME.

LOWER LAB: FEET	(L:LOWER LAB U:UPPER LAB)	AV. BAROMETRIC
ALTITUDE <u>10,640</u>	GEO MAGNETIC LATITUDE	N. OR S. PRESSURE L: <u>51.0CM.HG</u>
UPPER LAB: <u>12,480 FT.</u>		U: <u>48.3CM.HG</u>
GEOGRAPHIC LATITUDE <u>L:37°30.0'N.</u>	GEOGRAPHIC LONGITUDE <u>L:118°10.0'</u>	.W.
<u>U:37°35.1'N</u>		<u>U:118°14.1' W.</u>
CLIMATE: WINTER: MAX. TEMP. <u>L:42°F.</u>	U: <u>34°F</u>	SUMMER: MAX. TEMP. <u>L: 73°F. U:65°</u>
MIN. TEMP. <u>L:-10°</u>	U: <u>-18°</u>	MIN. TEMP. <u>L: 38° U:30°</u>
AVERAGE TEMP. <u>20°</u>		AVERAGE TEMP. <u>50°</u>
AV. DEPTH OF SNOW <u>1 - 2 FT.</u>		AV. DEPTH OF SNOW <u>NONE</u> FT. <u>M.</u>

OPERATING SEASON: ALL YEAR ROUND,

ACCESS AND TRANSPORT:

1. PERSONNEL. FROM LOS ANGELES OR VIA BISHOP, CALIFORNIA BY (AUTO) BUS  
RENO
2. HEAVY EQUIPMENT: (VIA) SOUTHERN PACIFIC RAILROAD OR COMMERCIAL TRUCKING TO BIG PINE, CALIF.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? ONLY TO BIG PINE.

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE.
2. STOVE (A) TO BE BROUGHT        (B) AVAILABLE. YES.
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES. (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER AMPLE ALL YEAR AT LOWER LAB; RESTRICTED AT TIMES AT UPPER LAB.

SANITATION INDOOR MODERN PLUMBING AT BOTH LOCATIONS, INCLUDING FLUSH TOILETS AND SHOWERS.

HEATING LARGE MULTIPLE OIL STOVES AT BOTH LOCATIONS.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 45 MILES \*

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NOT NECESSARY.

(B) POWER AVAILABLE YES. L: 3 PHASE  
 A.C. POWER 15 KW, 110/220 VOLTS, 60 CYCLES, U: 1 PHASE.  
 D.C. POWER KW, VOLTS.

SPACE L: 1200 SQUARE FEET; U: 1200 SQUARE FEET.

PERMANENT STAFF: NUMBER 5 FUNCTIONS GENERAL MAINTENANCE.  
 L: 10

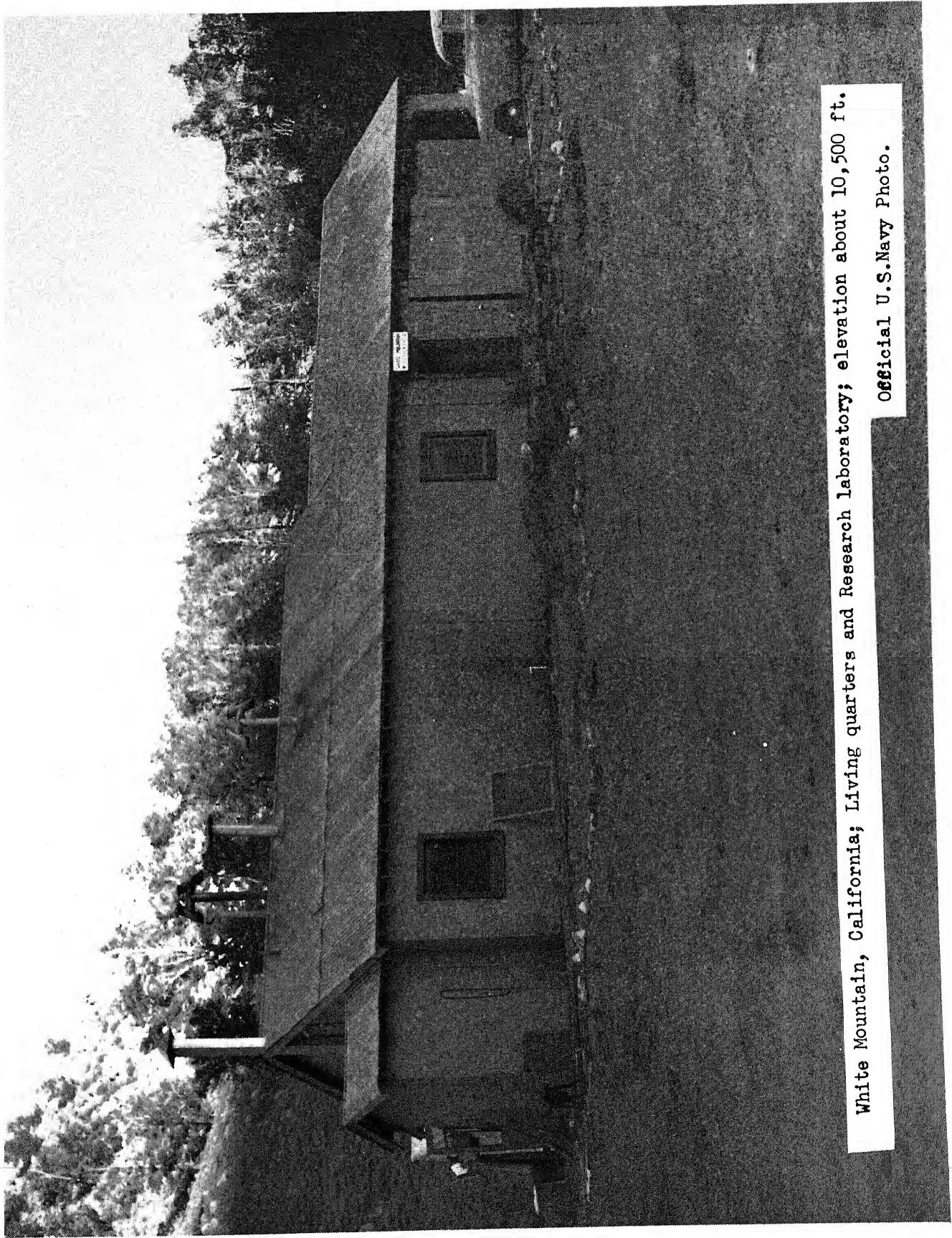
ACCOMODATIONS FOR U: 20 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION WHITE MOUNTAIN RESEARCH STATIONADMINISTRATION: OFFICE OF NAVAL RESEARCHNATIONAL SCIENCE FOUNDATIONI. SPONSORING ORGANIZATION ROCKEFELLER FOUNDATION2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROFESSOR S. F. COOKDEPT. OF PHYSIOLOGY, UNIVERSITY OF CALIFORNIA, BERKELEY 4, CALIF.CONDITIONS FOR APPLICATION LETTER TO PROFESSOR S. F. COOK.FEE FOR SOJOURN \$3.00 PER NIGHT LODGING PLUS \$ 1.00 PER MEAL FOOD COSTS.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE 3 TRUCKS, 2 BULLDOZERS,1 CRANE, 3 SNOW WEASELS, 2 JEEPS - ALL USED PRIMARILY FOR STATION MAINTENANCE.LIGHT EQUIPMENT SOME BASIC LABORATORY FACILITIES.DARK ROOM FACILITIES 1 DARK ROOM AT LOWER LAB; NO EQUIPMENT.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS RAT AND MOUSE COLONY; DOG PENS; SHEEP CORRAL.NO KG/OR KG/SQ. METERMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL LIMIT POUNDS, OR: LB/SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: CORRUGATED IRON.IS ROOF FLAT OR SLANTED? ROUND.LIBRARY NONE.WORK SHOP: MAJOR MACHINES: LATHE, DRILL PRESS, PLANER, PORTABLE POWER SAW.TOOLS AND OTHER FACILITIES SMALL HAND TOOLS.PERMANENT MECHANIC AVAILABLE? USUALLY.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL PHYSIOLOGY, PHYSICAL.POTENTIAL ALL.

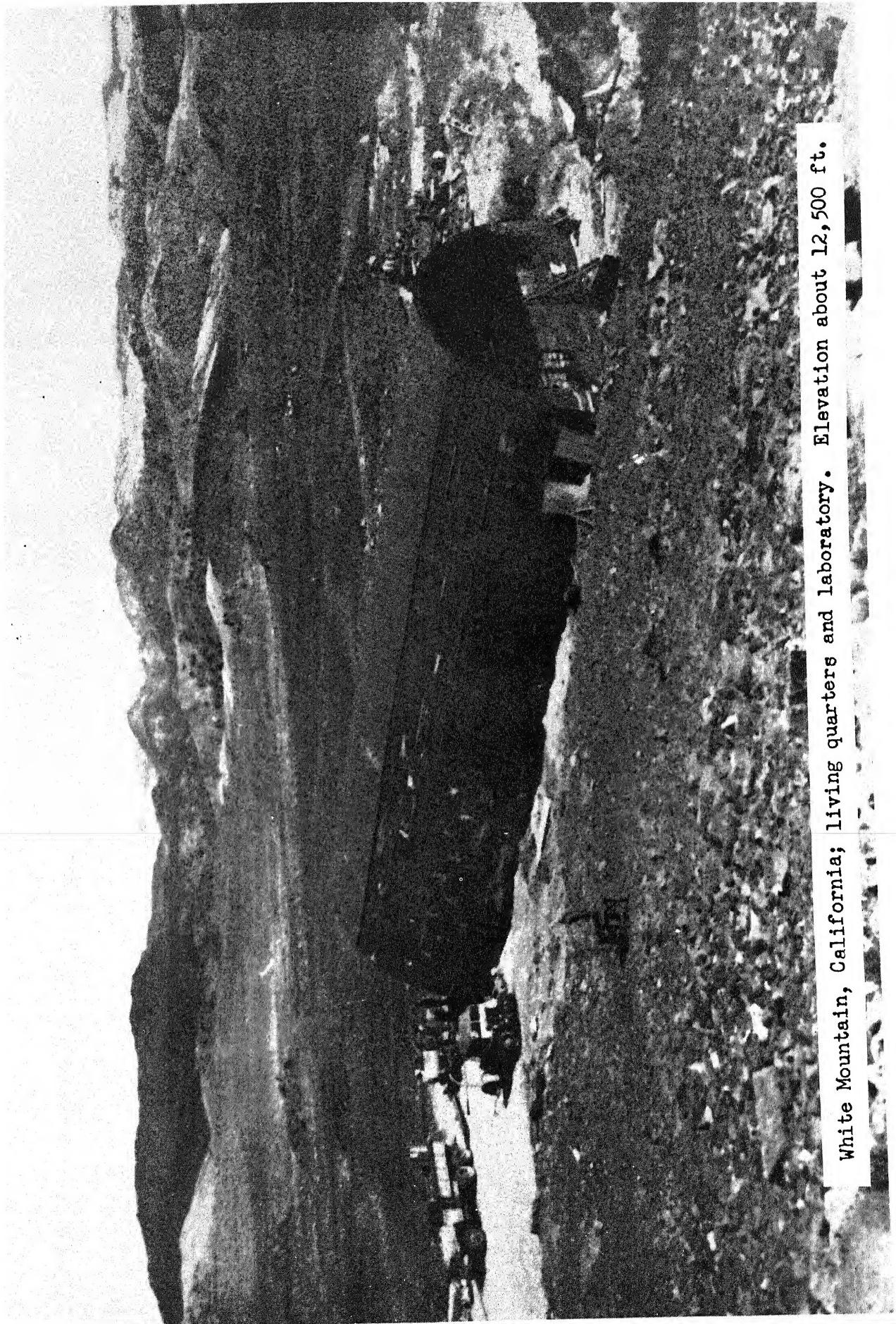
FURTHER REMARKS AND DATA. WHILE THE BASIC FACILITIES ARE AVAILABLE AS OUTLINED ABOVE, INVESTIGATORS DESIRING TO USE THE STATION SHOULD PLAN TO BRING THEIR OWN SCIENTIFIC EQUIPMENT. FURTHER DETAILS MAY BE OBTAINED BY WRITING TO PROFESSOR S. F. COOK, DEPT. OF PHYSIOLOGY, UNIVERSITY OF CALIFORNIA, BERKELEY 4, CALIF. THE UPPER AND LOWER LABORATORIES ARE 10 MILES APART, AND THE NEAREST TOWN, BIG PINE, IS 33 MILES AWAY. THERE IS A TELEPHONE TO THE LOWER LABORATORY.

\* ARRANGEMENTS HAVE BEEN MADE, AND USED, FOR PHYSICIAN TO FLY IN TO STATION IN AN EMERGENCY.



White Mountain, California; Living quarters and Research laboratory; elevation about 10,500 ft.

Official U.S.Navy Photo.



White Mountain, California; living quarters and laboratory. Elevation about 12,500 ft.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

ADDRESS OF STATION: TIOGA PASS ENTRANCE STATION (TEMPORARY STATION)  
YOSEMITE NATIONAL PARK, CALIFORNIA.  
(LOCATED 61 MILES EAST OF PARK HEADQUARTERS.)

ADDRESS IF DIFFERENT: SAME.

FEET

9941 GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE \_\_\_\_\_ CM.HG

IC LATITUDE 37°55' N. GEOGRAPHIC LONGITUDE 119°15' W.

WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C. SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_ NO RELIABLE DATA AVAILABLE. MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. \_\_\_\_\_ AVERAGE TEMP. \_\_\_\_\_  
AV. DEPTH OF SNOW \_\_\_\_\_ FT. AV. DEPTH OF SNOW \_\_\_\_\_ FT.

G SEASON: OR FROM JUNE 15 TO OCTOBER 1ST INCLUSIVE.

AND TRANSPORT:  
FROM LEEVINGIN OR  
PERSONNEL. FROM YOSEMITE NAT. PARK VIA BUS OR AUTO BY (RAIL)(AUTO) \_\_\_\_\_  
CALIF.

HEAVY EQUIPMENT: (VIA) LEEVINGIN, CALIFORNIA, ONLY.

IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

AND MEAL FACILITIES:

FOUND AT TUOLUMNE MEADOWS, 10 MILES AWAY (JULY 1 TO SEPT 1).  
OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE. No.

STOVE (A) TO BE BROUGHT YES (B) AVAILABLE. No.

FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES. (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. No. (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
AT LEEVINGIN OR TUOLUMNE MEADOWS.

DRINKING SUPPLY ONLY.

TION PUBLIC PRIVY.

3 NONE.

• DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 61 MI. OR KM.

IC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT YES.

(B) POWER AVAILABLE NONE.

A.C. POWER KW, VOLTS, CYCLES, PHASE,

D.C. POWER KW, VOLTS.

OPEN MEADOW. SQUARE FEET OR SQUARE METERS.

IENT STAFF: NUMBER NONE. FUNCTIONS TEMPORARY ONLY; A PERMANENT RANGER IS LOCATED  
AT TUOLUMNE MEADOWS, JUNE 15 TO OCT. 1.  
DATIONS FOR NONE PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION TIoga Pass Entrance Station, Yosemite Park, California.

## **ADMINISTRATION:**

1. SPONSORING ORGANIZATION NATIONAL PARK SERVICE IN CHARGE OF AREA.  
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE SUPERINTENDENT,  
YOSEMITE NATIONAL PARK, CALIFORNIA.

**CONDITIONS FOR APPLICATION**      **REQUEST PERMISSION IN WRITING OF PARK SUPERINTENDENT.**

**FEE FOR SOJOURN**      **NONE IF REQUEST GRANTED.**

**HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE**      **NONE.**

**LIGHT EQUIPMENT** **NONE**

**DARK ROOM FACILITIES** **NONE.**

**ANIMAL HOUSING FACILITIES FOR BIOLOGISTS**      **None.**

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL NONE POUNDS, OR: \_\_\_\_\_ LB/SQ. FOOT

**THICKNESS AND MATERIAL OF ROOF:** NO BUILDINGS AVAILABLE.

**IS ROOF FLAT OR SLANTED?** \_\_\_\_\_

**LIBRARY** \_\_\_\_\_ **NONE.**

**WORK SHOP: MAJOR MACHINES;** **NONE.**

**TOOLS AND OTHER FACILITIES** NONE.

**PERMANENT MECHANIC AVAILABLE?** NONE.

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL UNKNOWN.

POTENTIAL UNKNOWN.

## **FURTHER REMARKS AND DATA.**

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: HIGH ALTITUDE OBSERVATORY OF HARVARD UNIVERSITY AND  
UNIVERSITY OF COLORADO, CLIMAX, COLORADO

REIGNT ADDRESS IF DIFFERENT:

FEET	AV. BAROMETRIC
ALTITUDE <u>11,190</u>	PRESSURE <u>50</u> CM.HG

GEOGRAPHIC LATITUDE 39° 23' N.      GEOGRAPHIC LONGITUDE 106° 12' W.

CLIMATE: WINTER: MAX.TEMP. <u>46° F.</u> MIN.TEMP. <u>-40° F.</u> AVERAGE TEMP. <u>14° F.</u> AV.DEPTH OF SNOW <u>4</u> FT.	SUMMER: MAX. TEMP. <u>71° F.</u> MIN. TEMP. <u>30°</u> AVERAGE TEMP. <u>49°</u> AV.DEPTH OF SNOW <u>0</u> FT.
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OPERATING SEASON: ALL YEAR ROUND,

ACCESS AND TRANSPORT:

1. PERSONNEL. FROM DENVER VIA LOVELAND PASS BY (AUTO)
2. HEAVY EQUIPMENT: (VIA TRUCK VIA LOVELAND PASS DENVER-CLIMAX TRUCK LINE
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. X COOK AVAILABLE.
2. STOVE (A) TO BE BROUGHT        (B) AVAILABLE. X
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
CLIMAX TRADING POST

WATER SHALLOW WELL WITH ELECTRIC PUMP

SANITATION SEPTIC TANK WITH LEECHING BED

HEATING FORCED HOT AIR, BOTTLED GAS

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 13 MI.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO

(B) POWER AVAILABLE YES  
 A.C. POWER 40 KW, 110 VOLTS, 60 CYCLES, 1 (110 V) PHASE.  
 D.C. POWER NONE KW, VOLTS.

SPACE 5000 SQUARE FEET

PERMANENT STAFF: NUMBER 2 FULL TIME  
2 1/2-TIME FUNCTIONS DAILY SOLAR OBSERVATIONS

ACCOMODATIONS FOR 4 TO 6 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY,

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION HIGH ALTITUDE OBSERVATORY OF HARVARD UNIVERSITY AND UNIV. OF COLORADO

ADMINISTRATION:

1. SPONSORING ORGANIZATION HIGH ALTITUDE OBSERVATORY OF HARVARD UNIVERSITY AND UNIVERSITY OF COLORADO, BOULDER, COLORADO.
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE WALTER ORR ROBERTS,  
ROBERT J. LOW, ADMINISTRATIVE OFFICER, HIGH ALTITUDE OBSERVATORY, BOULDER, COLO.

CONDITIONS FOR APPLICATION \_\_\_\_\_

FEE FOR SOJOURN REIMBURSEMENT OF COST.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE SNOW CAT, JEEP, CORONAGRAPH,FLARE CAMERA.LIGHT EQUIPMENT DENSITOMETER, SENSITOMETERS.DARK ROOM FACILITIES FOR DEVELOPING SPECTROSCOPIC PLATES AND 35MM FILM; ENLARGING,ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL - POUNDS, OR: - KG/OR KG/SQ. METER LIGHT EQUIPMENT ONLY. LB/SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: SHEET METAL BACKED BY INSULATION.IS ROOF FLAT OR SLANTED? SLANTEDLIBRARY NONEWORK SHOP: MAJOR MACHINES: MINIMAL WOOD AND METAL WORKING FACILITIES.TOOLS AND OTHER FACILITIES WIDE VARIETY OF HAND TOOLS.PERMANENT MECHANIC AVAILABLE? NOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL SOLAR AND COSMIC RAY RESEARCH.POTENTIAL EXTENDED RESEARCH IN SOLAR PHYSICS AND RELATED  
FIELDS: COSMIC RADIATION, METEOROLOGY, ETC.

FURTHER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

AND ADDRESS OF STATION: MOUNT EVANS LABORATORY  
 (INTER UNIVERSITY HIGH ALTITUDE LABORATORIES)  
 P.O.BOX 121, IDAHO SPRINGS, COLORADO, U.S.A.

GHT ADDRESS IF DIFFERENT: ---  
 ITUTE 14150 FEET GEOMAGNETIC LATITUDE 68° N. AV. BAROMETRIC  
 PRESSURE 46 CM.HG

GRAPHIC LATITUDE 39°35.3' N. GEOGRAPHIC LONGITUDE 105°38.5' W.

MATE: WINTER: MAX.TEMP. \_\_\_\_ F. OR C.  
 MIN.TEMP. \_\_\_\_  
 AVERAGE TEMP. \_\_\_\_  
 AV.DEPTH OF SNOW \_\_\_\_ FT.  
 SUMMER: MAX. TEMP. 55° F.  
 MIN. TEMP. 20°  
 AVERAGE TEMP. 35°  
 AV.DEPTH OF SNOW 0 FT.

RATING SEASON: FROM JUNE 15 TO SEPT. 30, INCLUSIVE.

## ESS AND TRANSPORT:

1. PERSONNEL. FROM DENVER VIA IDAHO SPRINGS BY (AUTO) AUTO
2. HEAVY EQUIPMENT: (VIA) SAME.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

## TCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE. (SOMETIMES)
2. STOVE (A) TO BE BROUGHT (B) AVAILABLE. YES.
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. USUALLY (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. SOMETIMES (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
 IDAHO SPRINGS (28 MILES)

ATER AVAILABLE MOST OF THE SUMMER SEASON.

ANITATION W. C.

EATING COAL STOVE, KEROSENE STOVES.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 30 MILES

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT No.

(B) POWER AVAILABLE GENERATORS  
 UP TO:  
 A.C. POWER 30 KW, 110 VOLTS, 60 CYCLES, 1 OR 3 PHASE.  
 D.C. POWER KW, VOLTS.

SPACE 300 SQUARE FEET

PERMANENT STAFF: NUMBER 0 FUNCTIONS

ACCOMODATIONS FOR 6 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY. \*

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION MT. EVANS LABORATORY.ADMINISTRATION: INTER UNIVERSITY HIGH ALTITUDE LABORATORIES\*

1. SPONSORING ORGANIZATION \_\_\_\_\_

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE MARIO IONA, COORDINATOR,  
INTER UNIVERSITY HIGH ALTITUDE LABORATORIES, UNIVERSITY OF DENVER, DENVER 10, COLO.CONDITIONS FOR APPLICATION ANY QUALIFIED RESEARCH INSTITUTION IF SPACE PERMITS.FEE FOR SOJOURN \$2.00 PER PERSON PER DAY, (\$3.00 PER COUPLE) SMALL CHARGE FOR LABORATORY  
SPACE, COST OF UTILITIES.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE LEAD FREQUENTLY AVAILABLE.

LIGHT EQUIPMENT \_\_\_\_\_

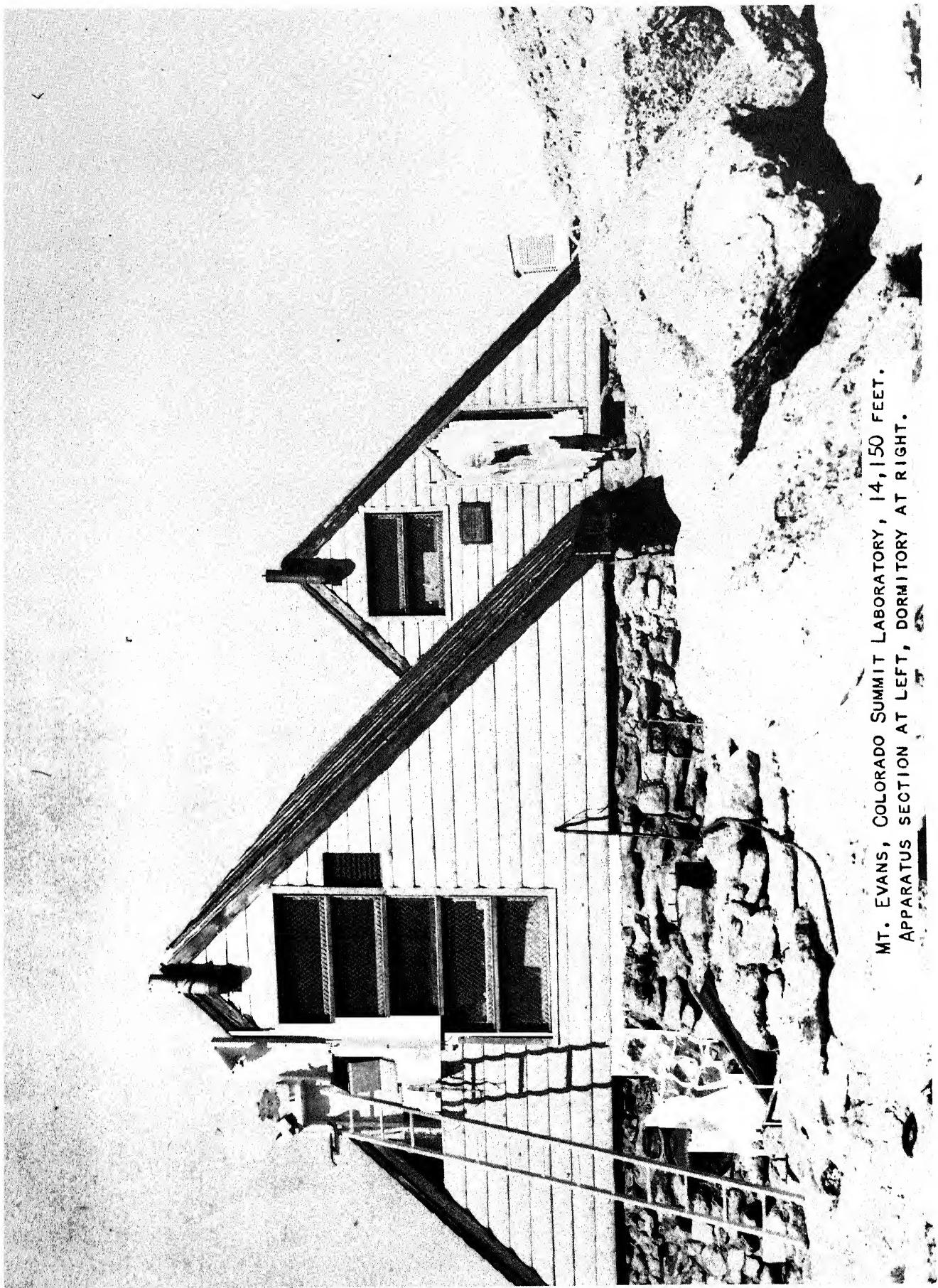
DARK ROOM FACILITIES YES, BUT NO RUNNING WATER.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS MAY BE ARRANGED.MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL \_\_\_\_\_ KG/SQ. METER  
OR: 2000THICKNESS AND MATERIAL OF ROOF: 2<sup>1</sup>/<sub>2</sub>" WOOD.IS ROOF FLAT OR SLANTED? SLANTED.LIBRARY \*\*WORK SHOP: MAJOR MACHINES: NONE.TOOLS AND OTHER FACILITIES NONE.PERMANENT MECHANIC AVAILABLE? No.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC-RAY, UPPER AIR, BIOLOGY.

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

\*\* SEE ALSO ECHO LAKE LABORATORY, 14 MILES AWAY.

\* UNIV. OF COLORADO  
 CORNELL UNIVERSITY  
 UNIV. OF DENVER  
 MASS. INSTITUTE OF TECHNOLOGY  
 PRINCETON UNIVERSITY  
 SYRACUSE UNIVERSITY



MT. EVANS, COLORADO SUMMIT LABORATORY, 14,150 FEET.  
APPARATUS SECTION AT LEFT, DORMITORY AT RIGHT.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: ECHO LAKE LABORATORY  
 (INTER UNIVERSITY HIGH ALTITUDE LABORATORIES)  
 P.O. BOX 121, IDAHO SPRINGS, COLORADO, U.S.A.

REIGHT ADDRESS IF DIFFERENT: ----- FEET

LITUDE 10700 GEOMAGNETIC LATITUDE 68° N. AV. BAROMETRIC PRESSURE 52 CM.HG

EOPGRAPHIC LATITUDE 39°39.7' N. GEOGRAPHIC LONGITUDE 105°35.7' W.

LIMATE: WINTER: MAX.TEMP. 40° F. SUMMER: MAX. TEMP. 70° F.  
 MIN.TEMP. -20° MIN. TEMP. 40°  
 AVERAGE TEMP. 100° AVERAGE TEMP. 50°  
 AV.DEPTH OF SNOW 2 FT. AV.DEPTH OF SNOW FT.

OPERATING SEASON: ALL YEAR ROUND, INCLUSIVE.

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM DENVER VIA IDAHO SPRINGS BY (AUTO)

2. HEAVY EQUIPMENT: (VIA) IDAHO SPRINGS

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

## ITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. (IF OCCUPANCY IS LARGE)

2. STOVE (A) TO BE BROUGHT No (B) AVAILABLE. YES

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. No (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER RUNNING HOT AND COLD (COLD UP TO 15 GAL/MIN) IDAHO SPRINGS (14 MILES)

SANITATION BATH AND SHOWERS, W.C.

HEATING AUTOMATIC FORCED AIR.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 14 MI.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT (ONLY IN CASE OF SPECIAL REQUIREMENTS)

(B) POWER AVAILABLE YES 110-11000 VOLTS

A.C. POWER 300 KW, 220 VOLTS, 60 CYCLES, 1 AND 3 PHASE.

D.C. POWER 40 KW, 220 VOLTS.

SPACE 1800 SQUARE FEET

PERMANENT STAFF: NUMBER ONE FUNCTIONS CARETAKER

ACCOMODATIONS FOR 20 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION ECHO LAKE LABORATORY

## ADMINISTRATION:

1. SPONSORING ORGANIZATION INTER UNIVERSITY HIGH ALTITUDE LABORATORIES2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE MARIO IONA, COORDINATORINTER UNIV. HIGH ALTITUDE LAB. UNIVERSITY OF DENVER, DENVER 10, COLORADOCONDITIONS FOR APPLICATION ANY QUALIFIED RESEARCH INSTITUTION MAY WORK HERE IF SPACE PERMITSFEE FOR SOJOURN \$2. PER PERSON PER DAY (\$3. PER COUPLE) SMALL CHARGE FOR LAB. SPACE; COST OF UTILITIES

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE

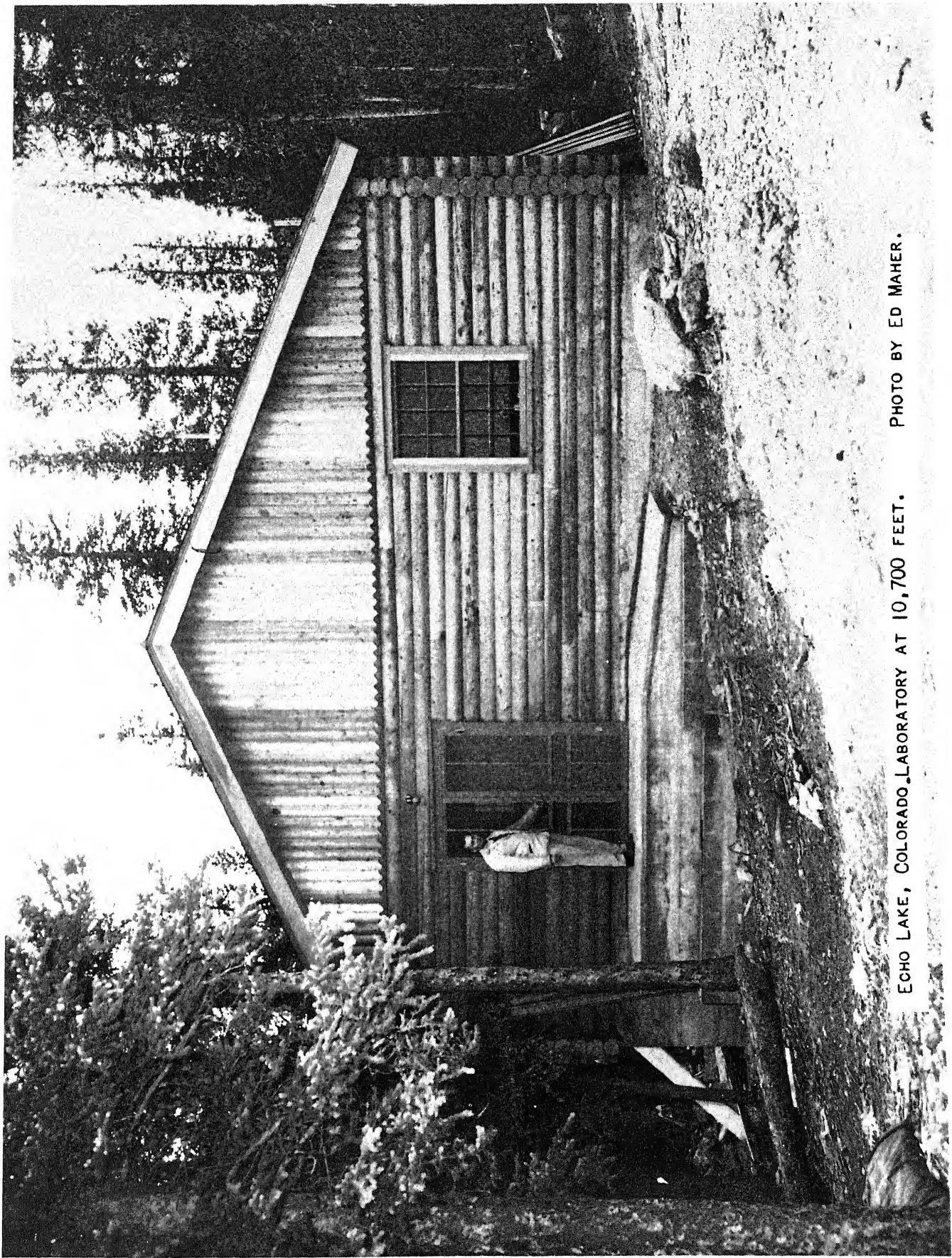
LEAD BRICKS FREQUENTLY AVAILABLELIGHT EQUIPMENT NONEDARK ROOM FACILITIES YESANIMAL HOUSING FACILITIES FOR BIOLOGISTS (MIGHT BE ARRANGED)

KG/SQ. METER

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL VARY! OR: 15000THICKNESS AND MATERIAL OF ROOF: APPROX. 2"-3" WOODIS ROOF FLAT OR SLANTED? SLANTEDLIBRARY PHYS. REVIEW AND SMALL COSMIC RAY BOOK COLLECTIONWORK SHOP: MAJOR MACHINES: LATHE, BAND SAW, GRINDERTOOLS AND OTHER FACILITIES ELECTRONICS AND SMALL SHOP EQUIPMENTPERMANENT MECHANIC AVAILABLE? NOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAYPOTENTIAL BIOLOGY

FURTHER REMARKS AND DATA. SEE ALSO MT. EVANS LABORATORY, 14 MI. AWAY

\* UNIV. OF COLORADO  
CORNELL UNIVERSITY  
UNIV. OF DENVER  
MASS. INST. OF TECH.  
PRINCETON UNIV.  
SYRACUSE UNIV.



ECHO LAKE, COLORADO. LABORATORY AT 10,700 FEET.

PHOTO BY ED MAHER.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: OBSERVATOIRE DU PIC DU MIDI  
BAGNERES-DE-BIGORRE  
(HAUTES PYRENEES) FRANCE.

FREIGHT ADDRESS IF DIFFERENT: AT THE RAILROAD STATION OF BAGNERES-DE-BIGORRE,  
9370 FEET AV. BAROMETRIC

ALTITUDE 2857 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE 53.8 CM.HG

GEOGRAPHIC LATITUDE 42° 56' 12" N. GEOGRAPHIC LONGITUDE 0° 8' 32" E.

CLIMATE: WINTER: MAX. TEMP. +5° C. SUMMER: MAX. TEMP. + 18° C.  
 MIN. TEMP. -25° MIN. TEMP. - 2°  
 AVERAGE TEMP. -8° AVERAGE TEMP. + 8°  
 AV. DEPTH OF SNOW 4 M. AV. DEPTH OF SNOW 0 FT.

OPERATING SEASON: ALL YEAR ROUND, \_\_\_\_\_

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM BAGNERES STATION \_\_\_\_\_ BY (AUTO) RAILWAY AND CABLE  
 2. HEAVY EQUIPMENT: (VIA) DITTO - ( 1 TON WINTER, 4 TONS SUMMER). YES, IN  
 3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? SUMMER.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. NO. COOK AVAILABLE. YES.  
 2. STOVE (A) TO BE BROUGHT NO. (B) AVAILABLE. \_\_\_\_\_  
 3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO. (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. YES. (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER 100 M<sup>3</sup> TANKS.

## SANITATION \_\_\_\_\_

HEATING CENTRAL HEATING.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 35 KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO. (BAGNERES.)

(B) POWER AVAILABLE YES.

A.C. POWER 750 KW, 127/220 VOLTS, 50 CYCLES, 3 PHASE.

D.C. POWER 3 KW, \* 120 VOLTS. \* FROM AUGUST 1954 ON,  
D.C.: 1000 KW, 200 VOLTS.

SPACE APPROX. 200 M<sup>2</sup> FOR LABORATORIES.

SQUARE METERS.

PERMANENT STAFF: NUMBER 20 FUNCTIONS 5 SCIENTISTS, 5 TECHNICIANS, 10 MANAGING STAFF.  
 (ABOUT 10 STAY AT THE TOP AT ONCE)

ACCOMODATIONS FOR 12 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION OBSERVATOIRE DU PIC DU MIDI.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION UNIVERSITÉ DE TOULOUSE MINISTÈRE DE L'EDUCATION NATIONALE.
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE LE DIRECTEUR DE L'OBSERVATOIRE DU PIC DU MIDI (BAGNERES-DE-BIGORRE).

CONDITIONS FOR APPLICATION APPLY TO THE DIRECTOR.FEE FOR SOJOURN APPROXIMATELY 1200 FRANCS PER DIEM.

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE ASTRONOMICAL INSTRUMENTS: 60 CM REFRACTOR, 60 CM REFLECTOR, 20 CM LYOT CORONAGRAPH, LYOT'S MONOCHROMATOR, NIGHT-SKY SPECTROGRAPH. ALSO COSMIC RAY EQUIPMENT BELONGING TO GUEST GROUPS. (MANCHESTER, LONDON, ECOLE POLYTECHNIQUE) RECTIFIERS BELONGING TO THE OBSERVATORY.

LIGHT EQUIPMENT

DARK ROOM FACILITIES 4 DARK ROOMS.

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS MAY BE ARRANGED. BOTANICAL GARDEN.  
KG/OR KG/SQ. METER

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: LB/SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: SEVERAL LABORATORIES ALUMINUM ROOFED, OTHER CONCRETE.IS ROOF FLAT OR SLANTED? SLANTED.LIBRARY AT THE MANAGING OFFICE, BAGNERES.WORK SHOP: MAJOR MACHINES: LATHE, DRILL PRESS.TOOLS AND OTHER FACILITIES USUAL.

PERMANENT MECHANIC AVAILABLE?

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL ASTRONOMY, COSMIC-RAYS, GEOPHYSICS, BOTANY, METEOROLOGY.  
POTENTIAL BIOLOGY.

## FURTHER REMARKS AND DATA.

MANAGING OFFICE AT BAGNERES-DE-BIGORRE TO BE CONTACTED  
FOR ANY FURTHER INFORMATION. ALSO AT BAGNERES, LABORATORIES,  
WORKSHOP, SEISMOLOGICAL STATION.



Observatoire du Midi Observatory, Pyrenees, France. Altitude abt. 9,300 ft.

Photo: Yan.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: LABORATOIRE DE L'AIGUILLE DU MIDI  
CHAMONIX  
HAUTE SAVOIE, FRANCE

FREIGHT ADDRESS IF DIFFERENT:

ALTITUDE 3600 METERS GEOMAGNETIC LATITUDE 47<sup>0</sup> N. AV. BAROMETRIC  
 PRESSURE CM.HG

GEOGRAPHIC LATITUDE 43<sup>0</sup> N. GEOGRAPHIC LONGITUDE 7<sup>0</sup> E.

CLIMATE: WINTER: MAX. TEMP.        F. OR C.  
 MIN. TEMP.         
 AVERAGE TEMP.         
 AV. DEPTH OF SNOW        FT. SUMMER: MAX. TEMP.        F. OR C.  
 MIN. TEMP.         
 AVERAGE TEMP.         
 AV. DEPTH OF SNOW        FT.

OPERATING SEASON: FROM JUNE TO SEPTEMBER INCLUSIVE.

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM PARIS VIA CHAMONIX BY (RAIL)  
 ACCESS BY AERIAL CABLEWAY FROM CHAMONIX, JUNE-NOVEMBER.

2. HEAVY EQUIPMENT: (VIA) SAME. CHAMONIX TO LAB. BY AERIAL CABLEWAY.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NO

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING.        COOK AVAILABLE. YES

2. STOVE (A) TO BE BROUGHT        (B) AVAILABLE. YES

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS.        (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER YES

SANITATION TOILET

HEATING STOVES

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC.        MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT       

(B) POWER AVAILABLE YES

A.C. POWER 50 KW, 220 VOLTS,        CYCLES, 3 PHASE.

D.C. POWER 75 KW,        VOLTS.

SPACE 100 SQUARE METERS.

PERMANENT STAFF: NUMBER 6 FUNCTIONS OBSERVERS, PHYSICISTS

ACCOMODATIONS FOR        PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

HIGH ALTITUDE STATION DATA SHEET CONTINUED.

JAME OF STATION LABORATOIRE DE L'AIGUILLE DU MIDI, HAUTE SAVOIE, FRANCE

## ADMINISTRATION:

1. SPONSORING ORGANIZATION LABORATORY OF THE CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE.  
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROF. LOUIS LEPRINCE-RINGUET,

ECOLE POLYTECHNIQUE 17 RUE DESCARTES, PARIS V. ASST. DIRECTOR: DR. PAUL CHANSON, COLLEGE DE FRANCE. LABORATOIRE DE PHYSIQUE ATOMIQUE ET MOLECULAIRE.

## CONDITIONS FOR APPLICATION

Fee for sojourn about 600.- French Fr. daily

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE TRANSPORT BY AERIAL CABLEWAY

POSSIBLE UP TO ANY AMOUNT IF LOAD IS DIVIDED INTO PARTS NOT HEAVIER THAN 600 KG..

## LIGHT EQUIPMENT

DARK ROOM FACILITIES      YES

## ANIMAL HOUSING FACILITIES FOR BIOLOGISTS

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL KG. OR KG./SQ. METER  
POUNDS. OR: LB./SQ. FOOT

THICKNESS AND MATERIAL OF ROOF: WOOD AND CORRUGATED IRON

IS ROOF FLAT OR SLANTED?  SLANTED

LIBRARY No

## WORK SHOP: MAJOR MACHINES:

**TOOLS AND OTHER FACILITIES**

PERMANENT MECHANIC AVAILABLE? YES

#### SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAY

## POTENTIAL

#### FURTHER REMARKS AND DATA. \*

HAS 75 HP DIESEL FOR CLOUDCHAMBER MAGNET.

# JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: INSTITUTE ET OBSERVATOIRE DE PHYSIQUE DU GLOBE  
DU PUY DE DOME, 12 AVENUE DES LANDAIS  
CLERMONT-FERRAND, FRANCE

REIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

FEET Av. BAROMETRIC  
LATITUDE 1450 METERS GEOMAGNETIC LATITUDE N. OR S. PRESSURE CM.HG

GEOGRAPHIC LATITUDE 45°04' N.      GEOGRAPHIC LONGITUDE 2°58' E.

CLIMATE: WINTER: MAX. TEMP. + 12° C.  
MIN. TEMP. - 20°  
AVERAGE TEMP. - 4°  
AV. DEPTH OF SNOW 0,20 M.

SUMMER: MAX. TEMP. + 26° C.  
MIN. TEMP. + 6°  
AVERAGE TEMP. + 16°  
AV. DEPTH OF SNOW 0 M.

OPERATING SEASON: ALL YEAR ROUND,

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM CLERMONT-FERRAND VIA ORCINES BY (AUTO)
  2. HEAVY EQUIPMENT: (VIA) IDEM
  3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

**KITCHEN AND MEAL FACILITIES:**

1. OBSERVERS DO THEIR OWN COOKING. NO COOK AVAILABLE. YES

2. STOVE (A) TO BE BROUGHT        (B) AVAILABLE.       

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

**WATER** YES \_\_\_\_\_

**SANITATION YES**

**HEATING** YES (CENTRAL HEATING)

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 15 KM

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT

(B) POWER AVAILABLE

(b) POWER AVAILABLE \_\_\_\_\_

A.C. POWER NONE KW,        VOLTS,        CYCLES,        PHASE.

D.C. POWER 4 KW, 100-150 VOLTS.

SPACE ROOMS, LABORATORIES SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER 4A14 FUNCTIONS PHYSICISTS, METEOROLOGISTS

ACCOMODATIONS FOR 2 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION OBSERVATOIRE DU PUY DE DOMEADMINISTRATION: 12 AV. DES LANDAIS, CLERMONT-FERRAND

1. SPONSORING ORGANIZATION \_\_\_\_\_

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DIRECTEUR: H.DESSENSCONDITIONS FOR APPLICATION A DISCUITER AVEC LE DIRECTEURFEE FOR SOJOURN /HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NOGROUPE ELECTRO A ESSENCE, BATTERIE 120 A-H, 150 VOLTSLIGHT EQUIPMENT YESDARK ROOM FACILITIES YESANIMAL HOUSING FACILITIES FOR BIOLOGISTS YESMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL / POUNDS, OR: / KG/SQ. METER  
KG/SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: VARIABLE; TOLE OU BETONIS ROOF FLAT OR SLANTED? FLAT AND SLANTEDLIBRARY YES (METEOROLOGY, SEISMOLOGY, TERR. MAGN.)

WORK SHOP: MAJOR MACHINES: \_\_\_\_\_

TOOLS AND OTHER FACILITIES PETIT OUTILLAGE

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL EXPERIMENTAL METEOROLOGY

POTENTIAL \_\_\_\_\_

FURTHER REMARKS AND DATA.

LE DIRECTEUR DE L'OBSERVATOIRE  
DU PUY DE DOME

H.DESSENS

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: OBSERVATOIRE VALLOT, SOMMET DU MONT BLANC,  
CHAMONIX (HAUTE-SAVOIE)  
FRANCE.

FREIGHT ADDRESS IF DIFFERENT:

ALTITUDE 4353 METERS GEOMAGNETIC LATITUDE 62° N. AV. BAROMETRIC  
 PRESSURE cm. hg

GEOGRAPHIC LATITUDE 45°50' N. GEOGRAPHIC LONGITUDE 00 27M 25S E.

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
 MIN. TEMP. \_\_\_\_\_  
 AVERAGE TEMP. \_\_\_\_\_  
 AV. DEPTH OF SNOW \_\_\_\_\_ FT.

SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
 MIN. TEMP. \_\_\_\_\_  
 AVERAGE TEMP. \_\_\_\_\_  
 AV. DEPTH OF SNOW \_\_\_\_\_ FT.

OPERATING SEASON: FROM JULY TO AUGUST INCLUSIVE.

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM CHAMONIX VIA \_\_\_\_\_ BY (RAIL)(AUTO) ON FOOT  
(SKIS)
2. HEAVY EQUIPMENT: (VIA) PORTERS - MOUNTAIN GUIDES.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? IMPOSSIBLE.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE. NO.
2. STOVE (A) TO BE BROUGHT YES. (B) AVAILABLE. NO.
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
CHAMONIX.

WATER BY MELTING SNOW.

SANITATION VERY DIFFICULT.

HEATING WOOD DROPPED BY PARACHUTE.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 8 HOURS GOING ~~XXX~~  
15 HOURS RETURNING.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO.

(B) POWER AVAILABLE \_\_\_\_\_

A.C. POWER \_\_\_\_\_ KW, \_\_\_\_\_ VOLTS, \_\_\_\_\_ CYCLES, \_\_\_\_\_ PHASE.

D.C. POWER \_\_\_\_\_ KW, \_\_\_\_\_ VOLTS.

SPACE 25 M<sup>2</sup> SQUARE METERS.

PERMANENT STAFF: NUMBER NONE FUNCTIONS \_\_\_\_\_

ACCOMODATIONS FOR 5 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION OBSERVATOIRE VALLOT, SOMMET DU MONT BLANC.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION OBSERVATOIRE DE PARIS2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE SECRETARY OF THE OBSERVATOIRE DE PARIS.CONDITIONS FOR APPLICATION SCIENTIFIC RESEARCH PROJECT. (ADDRESS REQUESTS TO THE DIRECTOR)FEE FOR SOJOURN GRATUITOUS.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NOTHING.LIGHT EQUIPMENT NOTHING.DARK ROOM FACILITIES NO INSTALLATION - ONE CLOSES THE WINDOW BLINDS.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS OUTSIDE.MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: 150 KG. OR KG/SQ. METERTHICKNESS AND MATERIAL OF ROOF: COPPER ROOF.IS ROOF FLAT OR SLANTED? SLANTED.LIBRARY NOTHING.WORK SHOP: MAJOR MACHINES: NOTHING.TOOLS AND OTHER FACILITIES SMALL HAND TOOLS.PERMANENT MECHANIC AVAILABLE? NO.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL GEOPHYSICS, PHYSIOLOGY, GLACIOLOGY.POTENTIAL GLACIOLOGY.

FURTHER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: LABORATORIO TESTA GRIGIA  
VAL D'AOSTA  
ITALY.

REIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

LITUDE 3480 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE \_\_\_\_\_ CM.HG

EOPGRAPHIC LATITUDE 45°56'06" N. GEOGRAPHIC LONGITUDE 7°42'30" E.

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
HIGH ALPINE, MIN. TEMP. \_\_\_\_\_  
MAINLY NORTH- AVERAGE TEMP. \_\_\_\_\_  
EAST WIND. AV.DEPTH OF SNOW \_\_\_\_\_ FT.  
AV.DEPTH OF SNOW \_\_\_\_\_ M.

OPERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

## ACCESS AND TRANSPORT:

BY ROAD TO BREUIL AND FROM THERE BY AERIAL CABLEWAY.

1. PERSONNEL. FROM \_\_\_\_\_ VIA \_\_\_\_\_ BY (RAIL)(AUTO) \_\_\_\_\_
2. HEAVY EQUIPMENT: (VIA) AERIAL CABLEWAY; UP TO ANY AMOUNT IF LOADS ARE DIVIDED INTO PARCELS NOT HEAVIER THAN 2000 KG.
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? \_\_\_\_\_

KITCHEN AND MEAL FACILITIES: SCIENTISTS CAN HAVE MEALS IN THE LABORATORY FOR 800-1000 ITALIAN LIRE PER DAY.

1. OBSERVERS DO THEIR OWN COOKING. \_\_\_\_\_ COOK AVAILABLE. \_\_\_\_\_
2. STOVE (A) TO BE BROUGHT \_\_\_\_\_ (B) AVAILABLE. \_\_\_\_\_
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. \_\_\_\_\_ (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. \_\_\_\_\_ (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER RUNNING HOT AND COLD; ONLY LIMITED AMOUNTS AVAILABLE (ABOUT 300 LITERS PER DAY).

SANITATION \_\_\_\_\_

HEATING ELECTRIC. (EMERGENCY HEATING WITH LIQUIGAS).

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. \_\_\_\_\_ MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE YES.

A.C. POWER 100 KW, 125/220 VOLTS, 60 CYCLES, 3 PHASE.

D.C. POWER    KW,    VOLTS.

SPACE { ONE LAB (25 M<sup>2</sup>), TWO LABS (10M<sup>2</sup>), ONE UNDERGROUND LAB (50 M<sup>2</sup>), ONE WORKSHOP (40 M<sup>2</sup>), TWO SLEEPING ROOMS (WITH SIX BEDS TOTAL), (DINING ROOM AND FACILITIES.

PERMANENT STAFF: NUMBER 1 FUNCTIONS    SERVANT

ACCOMODATIONS FOR 6 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION LABORATORIO TESTA GRIGIA

ADMINISTRATION: PROF. G. BERNARDINI - DIRECTOR

PROF. E. PANCINI - VICE - DIRECTOR

1. SPONSORING ORGANIZATION LABORATORY OF THE CENTRO DI STUDIO PER LA FISICA NUCLEARE DEL CONSIGLIO NAZIONALE DELLE RICERCHE.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROF. G. BERNARDINI - DIRECTOR,CENTRO DI FISICA NUCLEARE, PIAZZA DELLE SCIENZE 5, ROMA, ITALIA.CONDITIONS FOR APPLICATION REQUESTS OF SCIENTISTS FROM ALL COUNTRIES SHOULD BE SENT TO THE CENTRO DI FISICA NUCLEARE, WITH A SHORT REVIEW ON PLANNED RESEARCH.FEE FOR SOJOURN GRATIS.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE CATHODE RAY OSCILLOGRAPH,ELECTRONIC MEASURING APPARATUS, GLASSWARE, CHEMICALS, MOTORS, STORAGE BATTERIES, SPARE PARTS FOR COSMIC RAY APPARATUS.

LIGHT EQUIPMENT

DARK ROOM FACILITIES

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS

KG.OR

KG/SQ. METER

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL

OR: 1500THICKNESS AND MATERIAL OF ROOF: 1,5 GR/CM<sup>2</sup> AL. AND CORK.

IS ROOF FLAT OR SLANTED?

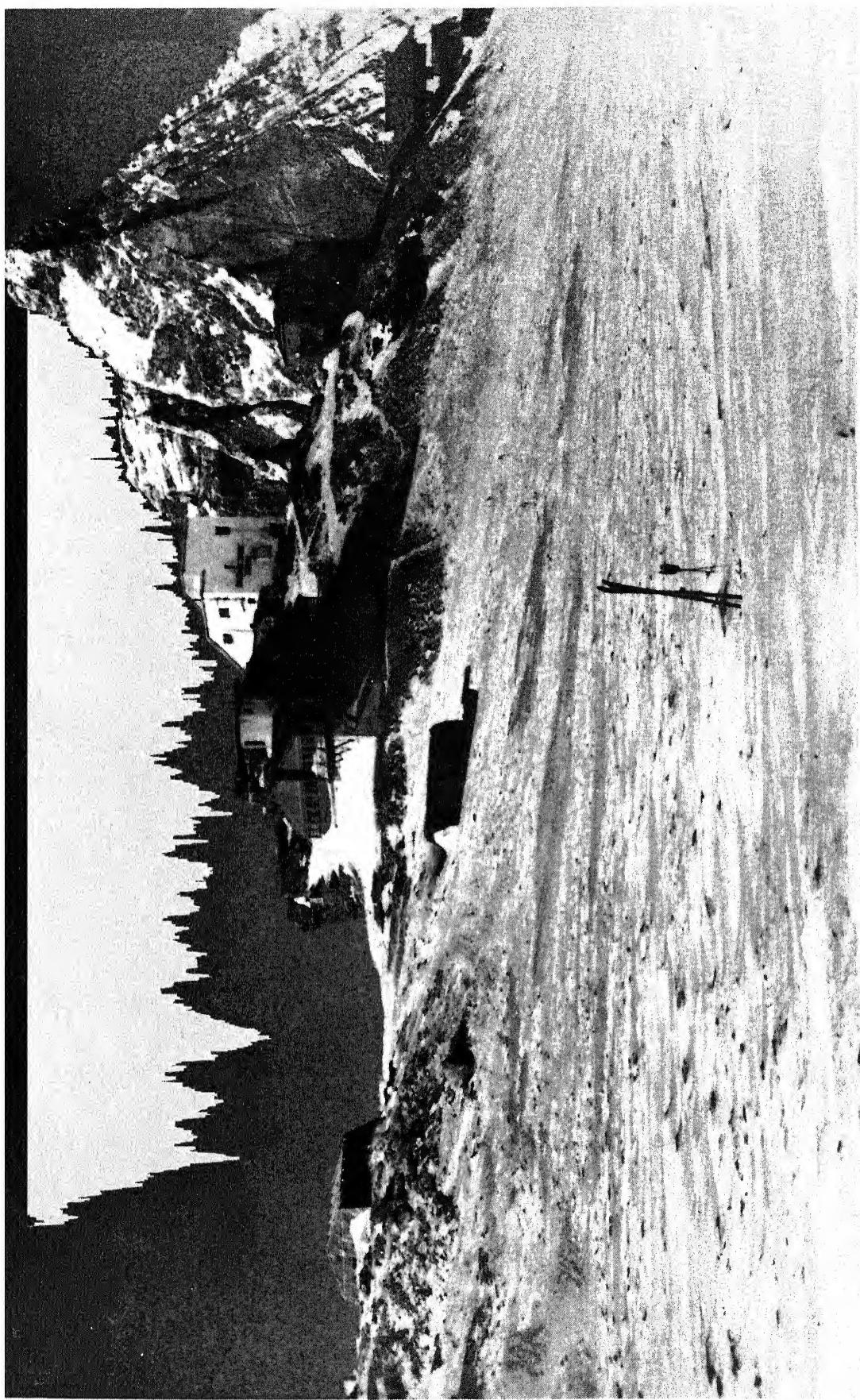
LIBRARY NO.WORK SHOP: MAJOR MACHINES: LATHE, DRILL, ELECTRIC SAW. WELL PROVIDED.

TOOLS AND OTHER FACILITIES

PERMANENT MECHANIC AVAILABLE?

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC RAY RESEARCH.POTENTIAL OTHER FIELDS OF RESEARCH AT HIGH ALTITUDE.

FURTHER REMARKS AND DATA.



ITALIAN COSMIC RAY OBSERVATORY, TESTA GRIGIA. COSMIC RAY STATION  
AT LEFT; HOTEL CENTER. MATTERHORN AT RIGHT. ALT. ABOUT 3500 M.  
PHOTO BY LAVATELLI.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: JUNGFRAUJOCH HIGH ALTITUDE RESEARCH STATION  
JUNGFRAUJOCH, SWITZERLAND.

MANAGEMENT: HOCHALPINE FORSCHUNGSSSTATION JUNGFRAUJOCH, DIREKTION, BÜHLPLATZ 5  
BERN, SWITZERLAND

FREIGHT ADDRESS IF DIFFERENT: BAHNSTATION LAUTERBRUNNEN

TWO BUILDINGS AV. BAROMETRIC  
ALTITUDE 3457 METERS GEOMAGNETIC LATITUDE N. OR S. PRESSURE CM.HG  
3570

GEOGRAPHIC LATITUDE  $46^{\circ}22'53''$  N. GEOGRAPHIC LONGITUDE  $7^{\circ}59'12.1''$  E.

CLIMATE: WINTER: MAX.TEMP.  $0^{\circ}$  OR C.  
MIN.TEMP.  $-35^{\circ}$   
AVERAGE TEMP.  $-12^{\circ}$   
AV. DEPTH OF SNOW 12 M.

SUMMER: MAX. TEMP.  $+12^{\circ}$  OR C.  
MIN. TEMP.  $+10^{\circ}$   
AVERAGE TEMP.  $+4^{\circ}$   
AV. DEPTH OF SNOW 6 M.

OPERATING SEASON: ALL YEAR ROUND,

## ACCESS AND TRANSPORT:

1. PERSONNEL. FROM LAUTERBRUNNEN VIA SCHEIDECK BY (RAIL)(AUTO) RAIL

2. HEAVY EQUIPMENT: (VIA) SAME

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES  
GARAGE AT LAUTERBRUNNEN

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. NO, POSSIBLY ON REQUEST  
(MEALS CAN BE TAKEN AT HOTEL NEXT DOOR)

2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. YES, ELECTRICAL

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES, HOTEL (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
LAUTERBRUNNEN, ORDER BY TELEPHONE

WATER AVAILABLE IN LIMITED AMOUNTS

SANITATION EXCELLENT. 5 WC AND 1 BATHROOM

HEATING ELECTRIC, SUPPLIED FREE OF CHARGE

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC.  $1\frac{1}{2}$  HOURS

TRA

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO

(B) POWER AVAILABLE YES

A.C. POWER 50-100KW, 240 VOLTS, 40 CYCLES, 3 PHASE.  
30 KW. 220 50 3

D.C. POWER 1-8 KW, 70 VOLTS. MORE THAN 1 KW. ONLY FOR SHORT  
TIMES

SPACE AT LEAST 800 M<sup>2</sup> SQUARE METERS.

PERMANENT STAFF: NUMBER 2 FUNCTIONS CARETAKER AND AID

ACCOMODATIONS FOR 15 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

ANOTHER 30 PERSONS CAN FIND ACCOMMODATION AT HOTEL NEARBY

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

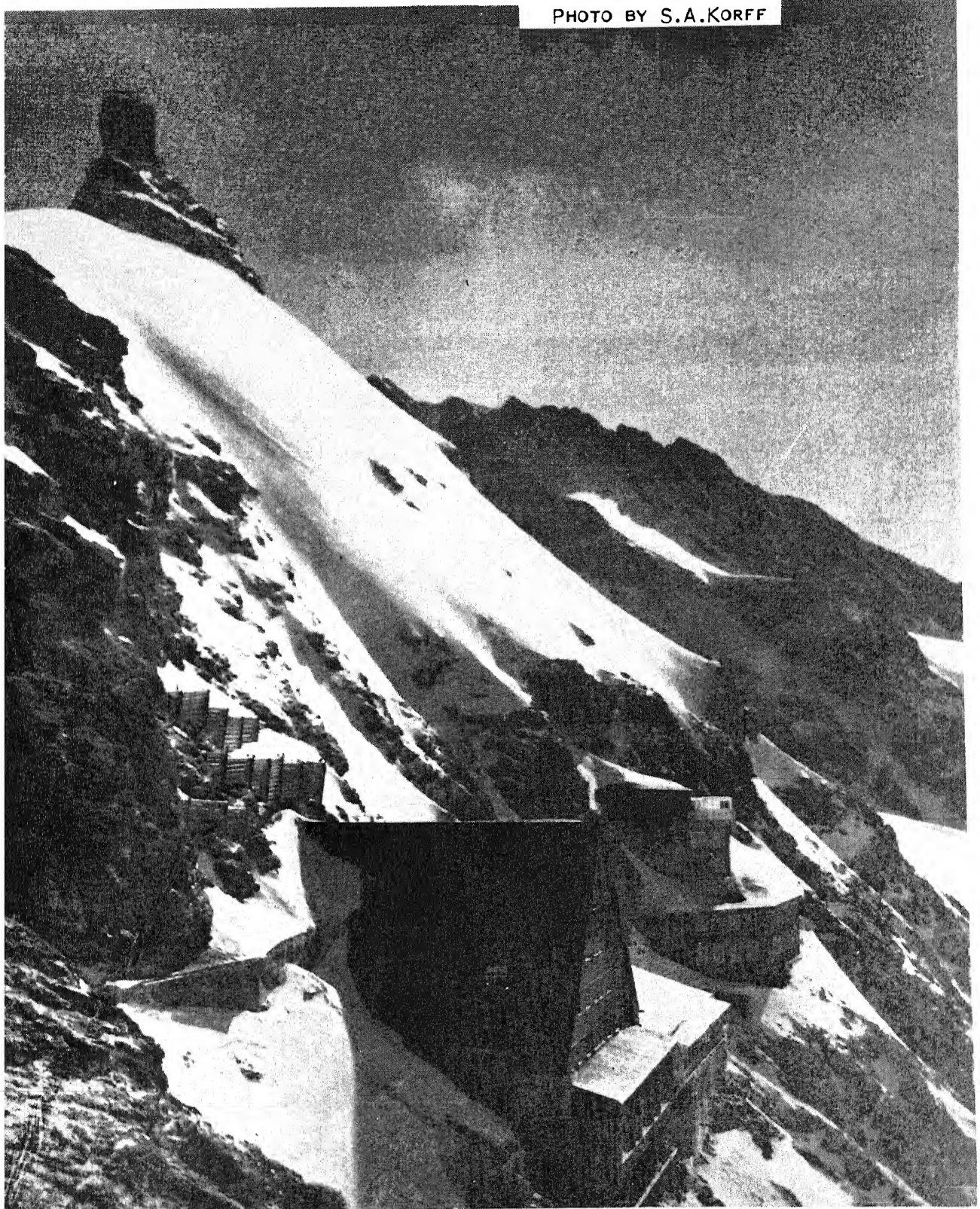
NAME OF STATION JUNGFRAUJOCH HIGH ALTITUDE RESEARCH STATIONADMINISTRATION: BERN, BÜHLPLATZ 51. SPONSORING ORGANIZATION INTERNATIONAL FOUNDATION ( AUSTRIA, BELGIUM, FRANCE,  
GERMANY, GREAT BRITAIN, SWITZERLAND )2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. P. VON TAVELINTERNATIONALE STIFTUNG, HOCHALPINE FORSCHUNGSSTATION JUNGFRAUJOCH  
BÜHLPLATZ 5, BERN, SWITZERLANDCONDITIONS FOR APPLICATION FILL IN APPLICATION FORM AND SEND RESEARCH PROGRAMDAYS FOR SOJOURN 0.5 TO 1 SW. FR. FOR SCIENTISTS FROM MEMBER COUNTRIES. 3 TO 6 SW. FR. FOR  
OTHERS. SHORTER STAYS THAN THREE DAYS MORE EXPENSIVE.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE ABOUT 5 TONS OF LEAD FORSCREENING (IN BRICKS )LIGHT EQUIPMENT INSTRUMENTS FOR ELECTRONIC MEASUREMENT, MICROSCOPES, CENTRIFUGE,  
GLASSWARE, CHEMICALSDARK ROOM FACILITIES TWO DARKROOMSMINIMAL HOUSING FACILITIES FOR BIOLOGISTS AVAILABLE  
KG. OR 500 TO KG/SQ. METERMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL 30,000 OR: 2000  
AT LEAST ACCORDING TO BUILDINGTHICKNESS AND MATERIAL OF ROOF: APPROX. 25 CM., VARIES ACCORDING TO PART OF BUILDINGIS ROOF FLAT OR SLANTED? (CONCRETE) FLATLIBRARY NOT VERY BIG, BUT FAIR SIZED, COVERING ASTRONOMY, BIOLOGY, GLACIOLOGY AND  
PHYSICS. GOOD NOVELS IN ENGLISH, FRENCH AND GERMAN ALSO AVAILABLE.WORK SHOP: MAJOR MACHINES: PRACTICALLY EVERYTHING ONE COULD THINK OF.TOOLS AND OTHER FACILITIES SAMEPERMANENT MECHANIC AVAILABLE? YES (CARETAKER IS GOOD MECHANIC )SCIENTIFIC FIELDS OF RESEARCH: ACTUAL ALL CONNECTED TO HIGH ALTITUDES.POTENTIAL SAME

FURTHER REMARKS AND DATA.

REGULATIONS IN ENGLISH, FRENCH AND GERMAN WILL BE SENT TO APPLICANTS  
TOGETHER WITH SPECIAL FORM FOR APPLICATION. WRITE TO ADMINISTRATIVE  
OFFICER.

ungfraujoch Observatory, Switzerland. Hotel, bottom center; laboratory, bottom meteorological observatory, top left. Alt. about 11,700 ft. at top.

PHOTO BY S.A.KORFF



## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: LABORATORIO DELLA MARMOLADA  
CANAZEI DI FASSA,  
(TRENTO) ITALY.

FREIGHT ADDRESS IF DIFFERENT: AS ABOVE

ALTITUDE 2030 METERS GEOMAGNETIC LATITUDE 47° 12' N. AV. BAROMETRIC PRESSURE 59 CM.HG

GEOGRAPHIC LATITUDE 46° 28' N. GEOGRAPHIC LONGITUDE 110° 53' E.

CLIMATE: WINTER: MAX. TEMP. + 2° C. SUMMER: MAX. TEMP. 15° C.  
 MIN. TEMP. -26° MIN. TEMP. 20°  
 AVERAGE TEMP. -5° AVERAGE TEMP. 5°  
 AV. DEPTH OF SNOW 1 M. M. AV. DEPTH OF SNOW 0 FT. M.

OPERATING SEASON: ALL YEAR ROUND,

ACCESS AND TRANSPORT:

SUMMER: CAPRILE VIA BELLUNO, BY CAR.

1. PERSONNEL. FROM WINTER: CANAZEI VIA TRENTO, 2½ HOURS ON FOOT.

2. HEAVY EQUIPMENT: (VIA) CAPRILE (FROM MAY TO NOVEMBER).

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

KITCHEN AND MEAL FACILITIES: MEALS ARE AVAILABLE AT A NEARBY HOTEL 200 YARDS DISTANT FROM THE LABORATORY. (OPEN ALL YEAR).

1. OBSERVERS DO THEIR OWN COOKING. NO COOK AVAILABLE. AT HOTEL

2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. AT HOTEL

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO

(B) CATERING ALREADY ARRANGED FOR YES, AT HOTEL

(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER 120 LITERS PER MINUTE.

SANITATION UP TO CITY STANDARDS.

HEATING ELECTRIC, IN THE FORM OF STOVES.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. DOCTORS AT CANAZEI AND CAPRILE

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO

(B) POWER AVAILABLE 150 KW

A.C. POWER 150 KW, 230 VOLTS, 50 CYCLES, 3 PHASE.

D.C. POWER NO KW, VOLTS.

SPACE 170 SQUARE METERS. 2 FLOORS EACH OF 85 SQ.M.

PERMANENT STAFF: NUMBER 4 FUNCTIONS RESEARCH PHYSICISTS

ACCOMODATIONS FOR NO PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.\*

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION LABORATORIO DELLA MARMOLADA

INISTRATION:

1. SPONSORING ORGANIZATION ISTITUTO NAZIONALE DI FISICA NUCLEARE2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. ARTURO LORIAISTITUTO DI FISICA-VIA MARZOLO 8- PADOVA, ITALYCONDITIONS FOR APPLICATION NO PERMANENT CONDITIONS EXISTFOR SOJOURN ACCORDING TO CIRCUMSTANCESIVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE LARGE ELECTROMAGNET7000 GAUSS, 25 KW) WORKING IN CONJUNCTION WITH A CLOUD CHAMBERHEAT EQUIPMENT NORMAL PHYSICAL LABORATORY EQUIPMENTWORK ROOM FACILITIES AVAILABLEIMAL HOUSING FACILITIES FOR BIOLOGISTS NOT PROVIDEDXIMUM LOADING OF LABORATORY FLOOR: TOTAL LIMIT POUNDS, OR: KG/SQ. METER  
FOR GROUNDFLOOR, 5 TONS PER SQ.M. FIRST FLOORICKNESS AND MATERIAL OF ROOF; 3 GR/ SQ. CM ALUMINUM SHEET WITH WOOD SUPPORTSIS ROOF FLAT OR SLANTED? SLANTEDLIBRARY IS PROVIDED, BUT HAS A LIMITED NUMBER OF BOOKSORK SHOP: MAJOR MACHINES: NOT AVAILABLETOOLS AND OTHER FACILITIES HAND MACHINE-TOOLS SUCH AS DRILLS, ETC.PERMANENT MECHANIC AVAILABLE? NOIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC-RAYSPOTENTIAL 

FURTHER REMARKS AND DATA. \* IN THE LAB., BUT ANY REASONABLE NUMBER CAN BE ACCOMMODATED IN THE HOTEL. THIS LABORATORY HAS BEEN COMPLETELY REBUILT DURING 1953, AND NOW PROVIDES EXCELLENT FACILITIES FOR HIGH-ALTITUDE RESEARCH. IT WILL BE NOTED THAT AMPLE ELECTRIC POWER AND WATER ARE PROVIDED, AND THAT THE SERVICES OF A HOTEL ARE AVAILABLE, BOTH FOR EATING AND SLEEPING. THE BUILDING IS A TWO-STORIED STRUCTURE, CONSISTING OF A REINFORCED CONCRETE GROUNDFLOOR INTEGRAL WITH THE NATIVE ROCK. THE CONCRETE IS CARRIED UP TO FORM THE FLOOR OF THE FIRST FLOOR, WHILE THE REMAINDER OF THE BUILDING IS OF WOOD INSULATED WITH GLASS WOOL AGAINST COLD.



Marmolada Laboratory, Italian Dolomites; Univ. of Padua.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: ASTROPHYSIKALISCHES OBSERVATORIUM AROSA.  
SWITZERLAND.

EIGHT ADDRESS IF DIFFERENT: ---

ITUDE 2050 METERS GEOMAGNETIC LATITUDE ---- N. OR S. PRESSURE 59 CM.HG

OGRAPHIC LATITUDE 46°40'10" N. OR GEOGRAPHIC LONGITUDE 0°38'42" E. OR

IMATE: WINTER: MAX.TEMP. 10° OR C.  
 MIN.TEMP. -30°  
 AVERAGE TEMP. -50  
 AV.DEPTH OF SNOW 1 FT.

SUMMER: MAX. TEMP. 24° OR C.  
 MIN. TEMP. -5°  
 AVERAGE TEMP. 15°  
 AV.DEPTH OF SNOW --- FT.  
M.

ERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

CESS AND TRANSPORT:

1. PERSONNEL. FROM AROSA STATION VIA \_\_\_\_\_ BY SKI-LIFT
2. HEAVY EQUIPMENT: (VIA) BY AUTO (IN SUMMER ONLY)
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? No

TCHEN AND MEAL FACILITIES:

OBSERVERS HAVE TO ARRANGE THEIR STAY AT ONE OF THE MANY HOTELS IN AROSA.

1. OBSERVERS DO THEIR OWN COOKING. COOK AVAILABLE.
2. STOVE (A) TO BE BROUGHT (B) AVAILABLE.
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

ATER RUNNING WATER ALL YEAR ROUND

ANITATION \_\_\_\_\_

EATING ELECTRICPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 3 OR KM.

LECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE \_\_\_\_\_

A.C. POWER 15 KW, 380/220VOLTS, 50 CYCLES, 3 PHASE.D.C. POWER -- KW, -- VOLTS.SPACE 20 SQUARE FEET OR SQUARE METERS.PERMANENT STAFF: NUMBER -- FUNCTIONS \_\_\_\_\_ACCOMODATIONS FOR -- PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

OF STATION ASTROPHYSIKALISCHES OBSERVATORIUM AROSA.

NISTRATION:

1. SPONSORING ORGANIZATION SWISS FEDERAL OBSERVATORY, ZURICH 6.
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROF. WALDMEIER,  
EIDGEN. STERNWARTE ZURICH 6, SCHMELZBERGSTRASSE 25.

ITIONS FOR APPLICATION --FOR SOJOURN --Y EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE COELOSTAT; HORIZONTAL  
TELESCOPE 30 METER FOCAL LENGTH; SPECTROGRAPHS; CORONAGRAPH.IT EQUIPMENT --< ROOM FACILITIES --MAL HOUSING FACILITIES FOR BIOLOGISTS -- KG/OR -- KG/SQ. METER  
IMUM LOADING OF LABORATORY FLOOR: TOTAL -- POUNDS, OR: -- LB/SQ. FOOTCKNESS AND MATERIAL OF ROOF: COPPER, 1 MM.IS ROOF FLAT OR SLANTED? SLANTEDRARY --Wk SHOP: MAJOR MACHINES: NO WORKSHOP AVAILABLE.TOOLS AND OTHER FACILITIES --PERMANENT MECHANIC AVAILABLE? --IENTIFIC FIELDS OF RESEARCH: ACTUAL SOLAR RESEARCH.POTENTIAL --

RTER REMARKS AND DATA.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: SWISS SNOW AND AVALANCHE RESEARCH STATION  
 WEISSFLUHJOCH ABOVE DAVOS  
 DAVOS, GRISONS, SWITZERLAND.

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_  
 8760 AV. BAROMETRIC

ALTITUDE 2670 METERS GEOMAGNETIC LATITUDE 48.0° N. OR S. PRESSURE 55.04 CM. HG

GEOGRAPHIC LATITUDE 46° 50' 03" N. GEOGRAPHIC LONGITUDE 09° 48' 25" E.

CLIMATE: MAX. TEMP. + 3° C SUMMER: MAX. TEMP. + 22° C.  
 MIN. TEMP. - 27° MIN. TEMP. - 5°  
 AVERAGE TEMP. - 9.5° (FEBRUARY) AVERAGE TEMP. + 6.2° (JULY)  
 AV. DEPTH OF SNOW 2.30 M. SEE NOTE (1). AV. DEPTH OF SNOW - FT.  
 (MARCH) MAXIMUM SNOW COVER: OCTOBER TO JULY.

OPERATING SEASON: ALL YEAR ROUND, REGULAR)

ACCESS AND TRANSPORT: DEC-APRIL, JULY-SEPTEMBER: FUNICULAR RAILWAY FROM DAVOS (22 MIN., SCHEDULE)  
 APRIL-JULY, SEPTEMBER-DECEMBER: FUNICULAR RAILWAY (OCCASIONAL RUNS).

1. PERSONNEL. FROM DAVOS, WALKING UP TAKES 3 HOURS. BY FOOT.

GOOD SKIING IN WINTER. SKIING DOWNHILL TAKES  $\frac{1}{2}$  - 1 HOUR. NO TRAFFICABLE ROAD.

2. HEAVY EQUIPMENT: (VIA) FUNICULAR. MAXIMUM LOAD: 500 KG A PIECE.

MAXIMUM DIMENSIONS: 70X200X300 CM.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NO ROAD.

KITCHEN AND MEAL FACILITIES: KITCHEN FOR STAFF OF INSTITUTE. RESTAURANT CLOSE TO INSTITUTE  
 FOR VISITORS, OPEN IN SUMMER (JUNE-SEPT.) AND IN WINTER (DEC.-APRIL). (LUNCH IS SERVED)

1. OBSERVERS DO THEIR OWN COOKING. NO COOK AVAILABLE. STAFF OF INST. (AT THE INSTITUTE)  
 (OWN COOK)

2. STOVE (A) TO BE BROUGHT NO. (B) AVAILABLE. YES.

(EXCEPT LUNCH)

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES ( )

(B) CATERING ALREADY ARRANGED FOR. -NO (YES OR NO)

(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

RESTAURANT, WEISSFLUHJOCH; ALSO DAVOS.

WATER AVAILABLE ONLY IN MODERATE QUANTITIES. (HAS TO BE BROUGHT UP BY RAILWAY.)  
 (SFR. 2.0 PER M<sup>3</sup>)

SANITATION TOILETS.

HEATING ELECTRICAL RADIANT HEATING IN THE CEILING.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 45 MI. (PARSENN-BAHN + BUS)

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO.

(B) POWER AVAILABLE YES.

NIGHT: 80KW 220 VOLTS 50 CYCLES 1 PHASE  
 (A.C. POWER DAY: 30KW) 380 VOLTS, 50 CYCLES, 3 PHASE.

D.C. POWER NONE KW, - VOLTS.

TOTAL: 2000 M<sup>3</sup>  
 SPACE (8) OFFICES, 285 M<sup>3</sup>; (6) LABS, 635 M<sup>3</sup>; (1) KITCHEN,

1 LIVING ROOM, 1 DARK ROOM, 1 STORAGE ROOM, 1 WORKSHOP, 2 BEDS)

PERMANENT STAFF: NUMBER 10-14 FUNCTIONS SCIENTISTS, SECRETARIES, MECHANICS, AIDS, ENGINEERS,  
 EMPLOYED BY SWISS GOVERNMENT.

ACCOMODATIONS FOR 1 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

MEMBERS OF THE INSTITUTE BUT ONE STAY OVERNIGHT AT DAVOS, 25 MIN. BY TRAIN.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION SWISS SNOW AND AVALANCHE RESEARCH STATION, WEISSFLUHJOCH ABOVE DAVOS.  
(EIDGENÖSSISCHES INSTITUT FÜR SCHNEE UND LAWINENFORSCHUNG)

ADMINISTRATION: SWISS FEDERAL INSPECTION OF FORESTRY, HUNTING AND FISHING, BERNE, (DEPT. OF INTERIOR.)

1. SPONSORING ORGANIZATION OWNER: CONFEDERATION OF SWITZERLAND.

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. M. R. DE QUERVAIN

WEISSFLUHJOCH/DAVOS, SWITZERLAND.

ORDINARILY, INSTITUTE NOT AVAILABLE TO OTHER SCIENTISTS, BUT IF CONDITIONS FOR APPLICATION CONDITIONS PERMIT, SPACE FOR 1<sup>ST</sup> SCIENTIST MAY BE OBTAINED ON REQUEST.

PREFERRED ARE SCIENTISTS WORKING ON SNOW AND ICE. APPLICANT MUST FOLLOW RULES OF INSTITUTE. FEE FOR SOJOURN ACCOMMODATIONS AT DAVOS, PRIVATE ROOM SFR. 80-100 PER MONTH. MEALS SFR. 6-8

PER DAY. FEES TO INSTITUTE: (SLF) SFR. 3.- PER DAY.

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE REFRIGERATORS FOR LABORATORIES (11KW) STANDARD METEOROLOGICAL INSTRUMENTS (INCLUDING RECORDING ANEMOMETER). EQUIPMENT FOR SNOW RESEARCH SUCH AS SOUNDING RODS, THERMOMETER, ETC. ELECTRICAL INSTRUMENTS (VOLTMETER, AMMETER, DIFFERENT SENSITIVITIES, WATTMETER, COMPENSATION BRIDGES, GALVANOMETER, OSCILLOGRAPH). LIGHT EQUIPMENT ACETYLENE AND OXYGEN AVAILABLE. VACUUM PUMP.

DARK ROOM FACILITIES YES, FOR DEVELOPING FILMS, PRINTS, ENLARGEMENTS.

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.

KG. OR KG/SQ. METER

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: 200

THICKNESS AND MATERIAL OF ROOF: CM. WOODEN FRAME COVERED WITH CEMENT PLATES.

IS ROOF FLAT OR SLANTED? FLAT

LIBRARY LIBRARY, BIBLIOGRAPHY, COLLECTION OF SLIDES AND PHOTOGRAPHS, FILMS ON SNOW AND ICE.  
 BOOKS AND PAPERS ON GLACIOLOGY, SNOW AND ICE.

WORK SHOP: MAJOR MACHINES: DRILL, TURNING LATHE, SAWING MACHINE.

TOOLS AND OTHER FACILITIES WELDING EQUIPMENT, TOOLS FOR WOOD AND METAL WORK.

PERMANENT MECHANIC AVAILABLE? YES. (2)

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL WEATHER STANDARD OBSERVATIONS DURING WINTER: SNOW AND AVALANCHE CONDITIONS IN DIFFERENT LOCATIONS AND ALTITUDES.

GENERAL PURPOSE: STUDIES ON SNOW AND ICE, IN PARTICULAR AVALANCHES. STUDIES ON ATMOSPHERIC ICING AND HAIL

FURTHER REMARKS AND DATA. FORMATION. POTENTIAL: METEOROLOGY.

\* OR POSSIBLY 2 SCIENTISTS.

NOTE (1) AVERAGE WIND VELOCITY: 3m/s, DURATION OF SUNSHINE: 2040 HOURS/YEAR, CLOUDINESS: 6.3/10, PRECIPITATION: RAIN 500 MM/YEAR, SNOW 700 MM/YEAR.

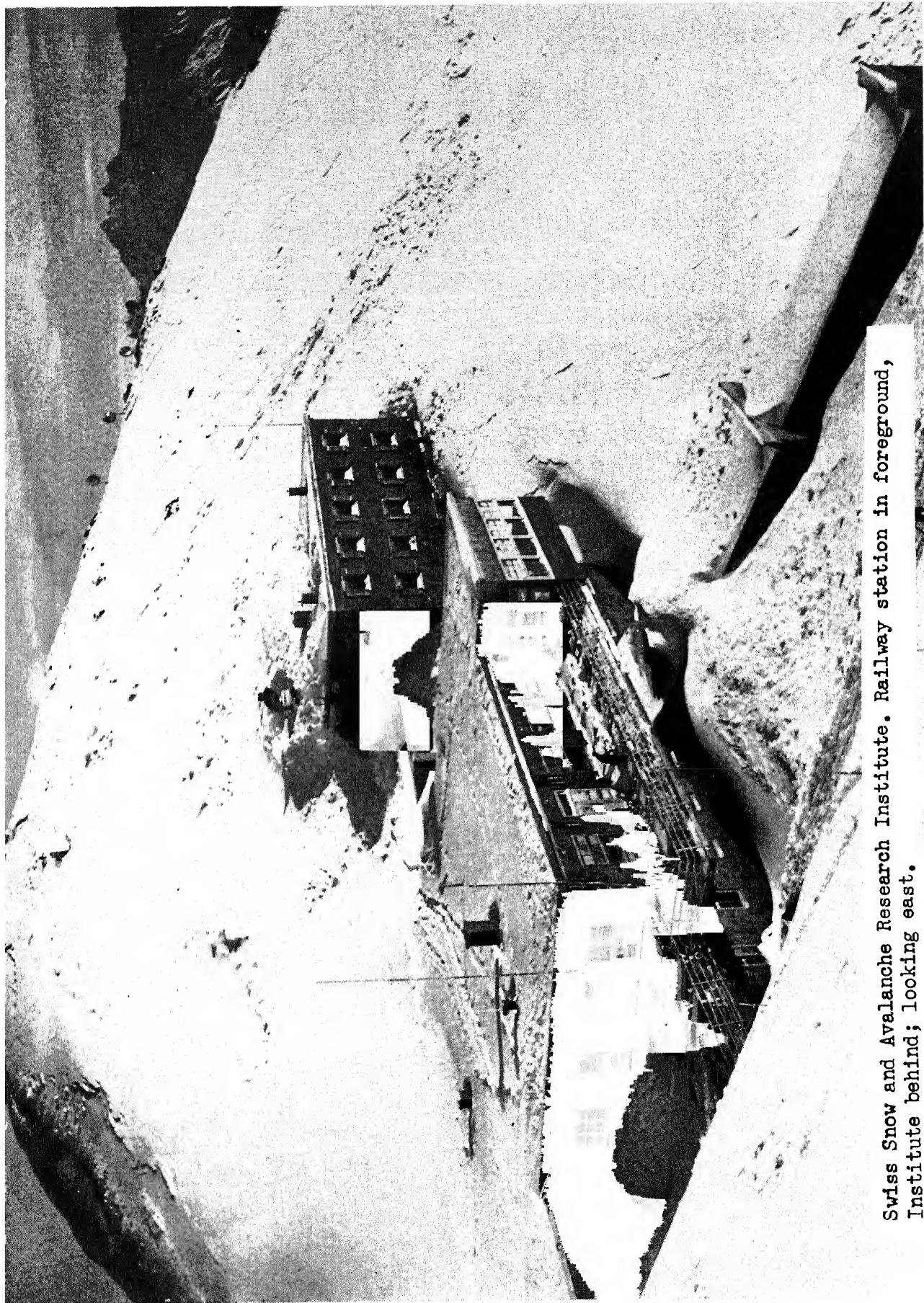
NOTE (2) CLOSEST UNIVERSITY CITY: ZURICH (UNIVERSITY OF ZURICH, FEDERAL INSTITUTE OF TECH.) 3½ HOURS BY TRAIN OR HIGHWAY.

NOTE (3) POST DELIVERY DURING WINTER AND SUMMER SEASON OF RAILWAY. OTHER COMMUNICATIONS: TELEPHONE: TWO LINES ((083) 35 506). TELETYPE: DECEMBER TO APRIL. RADIO: RECEIVER ONLY.

NOTE (4) CHARACTER OF SURROUNDINGS: THE INSTITUTE IS SITUATED ON A SLOPE OF 35 DEGREES WITH SOUTHERN EXPOSURE. FREE HORIZONS (DISTANT MOUNTAINS OF 3000-3500 M) FROM E. TO W.

MOUNTAINS OF SIMILAR ALTITUDE AS INSTITUTE IN CLOSE SURROUNDINGS. PRACTICALLY NO VEGETATION. (TIMBERLINE AT 1900 M.).

NOTE (5) LABORATORIES: 2 COLD ROOMS 5 x 10.5 M AND 5 x 7.5 M. (-5°, -10°) 2 COLD ROOMS 3 x 2.2 M (-20°, -40°) 1 WARM LABORATORY 3 x 4 M.



Swiss Snow and Avalanche Research Institute. Railway station in foreground,  
Institute behind; looking east.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: FORSCHUNGSSTELLE BEIM BUNDESSPORTHEIM DER UNIVERSITÄT  
INNSBRUCK, OBERGURGL-ÖTZTAL.

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

ALTITUDE 1950 METERS GEOMAGNETIC LATITUDE --- AV. BAROMETRIC  
N. OR S. PRESSURE 59.8 CM.HG

GEOGRAPHIC LATITUDE CA 46°52' N. GEOGRAPHIC LONGITUDE CA 11° 02' E.

CLIMATE: WINTER: MAX TEMP. \_\_\_\_\_ F. OR C.  
MIN TEMP. \_\_\_\_\_  
AVERAGE TEMP. CA -6.7° C.  
AV. DEPTH OF SNOW \_\_\_\_\_ FT.

SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. CA 9.2° C.  
AV. DEPTH OF SNOW \_\_\_\_\_ FT.

OPERATING SEASON: ALL YEAR ROUND, \_\_\_\_\_

ACCESS AND TRANSPORT:

BY RAILROAD TO ÖTZTAL-OBERINNTAL, OR FROM INNSBRUCK BY POSTAL BUS.

1. PERSONNEL. FROM \_\_\_\_\_ VIA \_\_\_\_\_ BY (RAIL)(AUTO) \_\_\_\_\_

2. HEAVY EQUIPMENT: (VIA) \_\_\_\_\_ THROUGH ÖTZTAL.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. No. COOK AVAILABLE. IN THE BUNDESSPORTHEIM  
(SPORT-ASSOCIATION CENTER)

2. STOVE (A) TO BE BROUGHT No. (B) AVAILABLE. YES.

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. No (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES. (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER YES.

SANITATION YES.

HEATING YES.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 10 MI.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT No.

(B) POWER AVAILABLE YES.

A.C. POWER \_\_\_\_\_ KW, 220 VOLTS, \_\_\_\_\_ CYCLES, \_\_\_\_\_ PHASE.

D.C. POWER \_\_\_\_\_ KW, \_\_\_\_\_ VOLTS.

SPACE SEVERAL ROOMS, LECTURE HALL.

PERMANENT STAFF: NUMBER - FUNCTIONS -

ACCOMODATIONS FOR - PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION FORSCHUNGSSTELLE BEIM BUNDESSPORTHEIM DER UNIVERSITÄT INNSBRUCK,  
" OBERGURGL-ÖTZTAL.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION " UNIVERSITÄT INNSBRUCK.

2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. W. BURGER,  
DIRECTOR OF THE BUNDESSPORTHEIM.

## CONDITIONS FOR APPLICATION

FEES FOR SOJOURN 45 - 50 AUSTRIAN SCHILLINGS (WITH BOARD), PER DAY.

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE YES,

LIGHT EQUIPMENT YES.

DARK ROOM FACILITIES YES.

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NO.

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL - POUNDS, OR: - LB/SQ. FOOT KG/OR KG/SQ. METER

THICKNESS AND MATERIAL OF ROOF: -

IS ROOF FLAT OR SLANTED? SLANTED.

LIBRARY A SMALL LIBRARY ON HAND.

WORK SHOP: MAJOR MACHINES: X-RAY INSTALLATION.

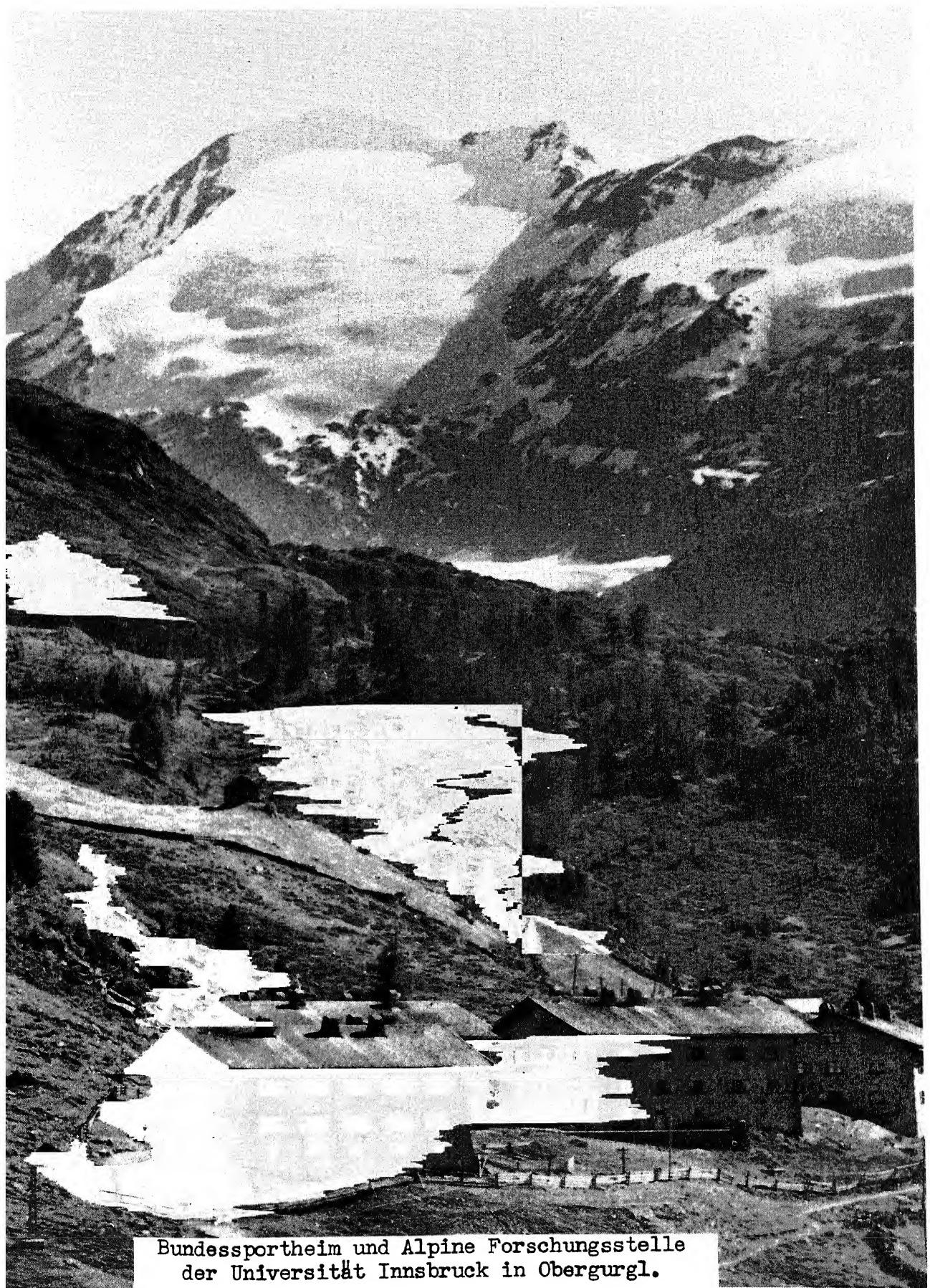
TOOLS AND OTHER FACILITIES -

PERMANENT MECHANIC AVAILABLE? NO.

SCIENTIFIC FIELDS OF RESEARCH; ACTUAL NATURAL SCIENCES AND MEDICINE.

POTENTIAL -

FURTHER REMARKS AND DATA.



Bundessportheim und Alpine Forschungsstelle  
der Universität Innsbruck in Obergurgl.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

E AND ADDRESS OF STATION: SONNBLICK - OBSERVATORIUM  
POST RAURIS, SALZBURG

IGHT ADDRESS IF DIFFERENT: TAXENBACH -RAURIS, SALZBURG

ITUDE 3106 METERS GEOMAGNETIC LATITUDE 46.9° N. AV. BAROMETRIC  
 PRESSURE 52.0 CM.HG.

OGRAPHIC LATITUDE 47°03' N. GEOGRAPHIC LONGITUDE 12° 57' E.

IMATE: WINTER: MAX.TEMP. +10 C. SUMMER: MAX. TEMP +14° C.  
 MIN.TEMP. -37° MIN. TEMP -16°  
 AVERAGE TEMP. -13° AVERAGE TEMP. 0°  
 AV.DEPTH OF SNOW 3.70 M. AV.DEPTH OF SNOW 3.00 M.

ERATING SEASON: ALL YEAR ROUND,

CESS AND TRANSPORT:

SALZBURG- TAXENBACH (RAIL) - RAURIS - KOLM SAIGURN (AUTO).

1. PERSONNEL. FROM KOLM - SONNBLICK (BY FOOT, 5 HOURS)

2. HEAVY EQUIPMENT: (VIA) TAXENBACH (RAIL) --KOLM (AUTO) --SONNBLICK (CABLE-RAIL).

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES  
 (SMALL, ROUGH ROAD)

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. YES

2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. YES

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
RAURIS, 950 M

ATER BY MELTING OF HOARFROST AND SNOW.

SANITATION FIRST-AID MATERIAL.

HEATING STOVE IN THE KITCHEN AND IN ROOMS.

A)                    B)                    C)                    A) RAURIS 23 KM.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. B) ZELL A.S. 40. KM.  
 C) SALZBURG 75 KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT No.

(B) POWER AVAILABLE GASOLINE COMPOSITE AND BATTERIES

A.C. POWER -- KW, -- VOLTS, -- CYCLES, -- PHASE.

D.C. POWER 0,6 KW, 60 VOLTS.

SPACE (2) 16

SQUARE METERS.

PERMANENT STAFF: NUMBER 2 FUNCTIONS OBSERVERS

ACCOMODATIONS FOR 5 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION SONNBLICK - OBSERVATORIUM

## ADMINISTRATION:

1. SPONSORING ORGANIZATION SONNBLICK - VEREIN, WIEN 19., HOHE WARTE 38
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE ZENTRALANSTALT FÜR METEOROLOGIE UND GEODYNAMIK, WIEN 19. HOHE WARTE 38, AUSTRIA

CONDITIONS FOR APPLICATION PREVIOUS ANNOUNCEMENT TO SONNBLICK - VEREIN NECESSARY

FEES FOR SOJOURN ACCORDING TO REQUIREMENTS OF OBSERVER. DETAILED INFORMATION MAY BE OBTAINED FROM SONNBLICK - VEREIN  
 HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE ROPES, ICE-AXES, CRAMPONS  
AVAILABLE, NO CLOTHING EQUIPMENT

LIGHT EQUIPMENT DITTODARK ROOM FACILITIES IMPROVISED

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NO  
 MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL 300 KG/OR KG/SQ. METER  
OR: -- LB/SQ. FOOT

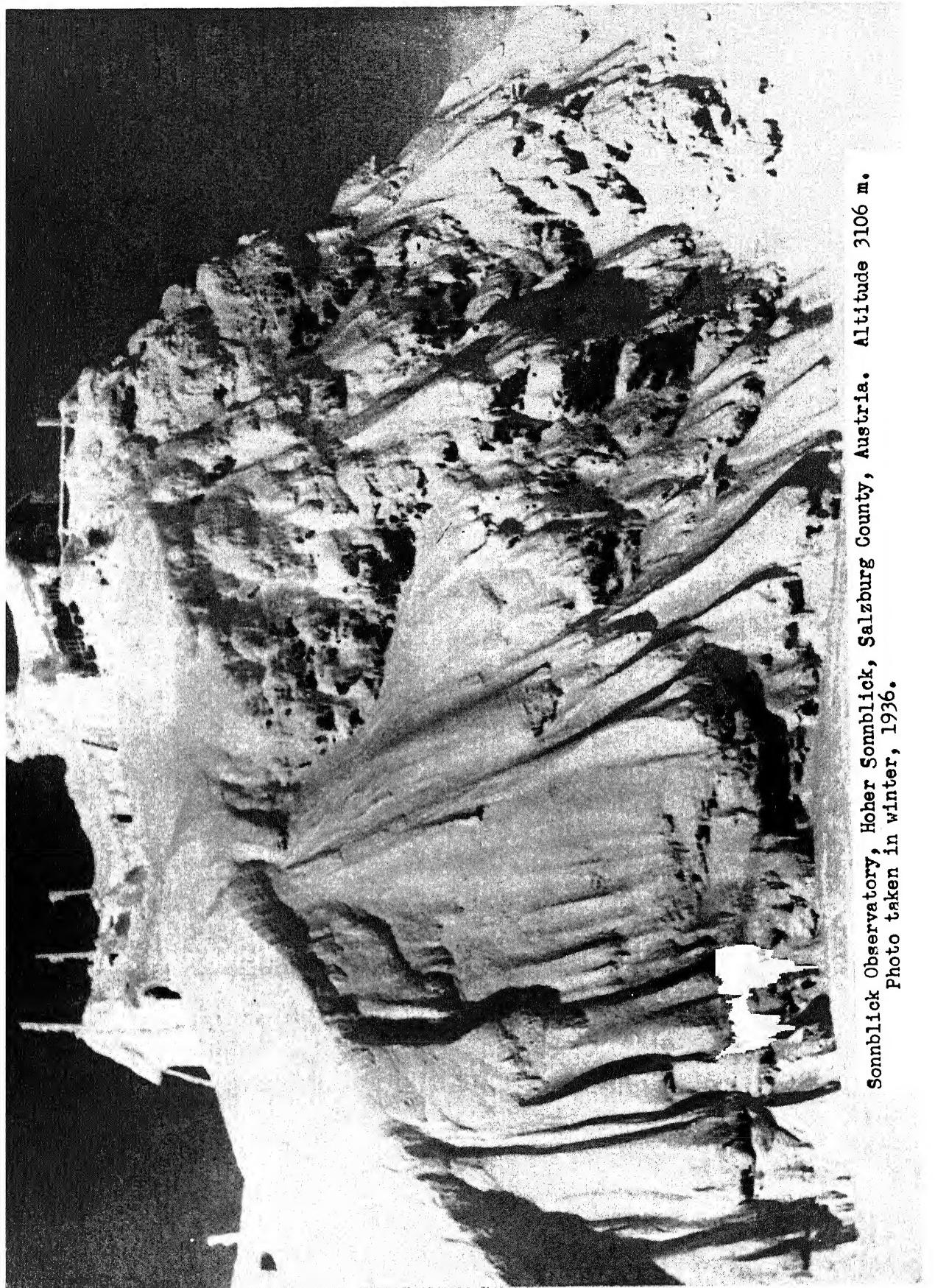
THICKNESS AND MATERIAL OF ROOF; WOODIS ROOF FLAT OR SLANTED? SLANTEDLIBRARY SOME METEOROLOGICAL LITERATUREWORK SHOP: MAJOR MACHINES: NONETOOLS AND OTHER FACILITIES A FEW HAND TOOLSPERMANENT MECHANIC AVAILABLE? NOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL RESEARCH ON GLACIERS AND RADIATION

POTENTIAL ALL METEOROLOGICAL PROBLEMS, ATMOSPHERE  
ELECTRICITY, COSMIC-RAY

## FURTHER REMARKS AND DATA.

WINTER: BASIC FOOD IS SUPPLIED BY PERMANENT STAFF.

SUMMER: REGULAR MEALS ARE SERVED AS USUAL IN ALPINE CLUB HUTS.



Sonnblick Observatory, Hoher Sonnblick, Salzburg County, Austria. Altitude 3106 m.  
Photo taken in winter, 1936.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

## DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: DEUTSCHER WETTERDIENST OBSERVATORIUM ZUGSPITZE  
POST GARMISCH-PARTENKIRCHEN

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_

ALTITUDE 2960 METERS GEOMAGNETIC LATITUDE 48.1° N. AV. BAROMETRIC  
 PRESSURE 52.97 CM.HG

GEOGRAPHIC LATITUDE 47.25° N. GEOGRAPHIC LONGITUDE 10.59° E.

CLIMATE: WINTER: MAX. TEMP. 4.2° C. SUMMER: MAX. TEMP. 17.4° C.  
 MIN. TEMP. -35.6° MIN. TEMP. -12.0°  
 AVERAGE TEMP. -10.9° AVERAGE TEMP. 1.4°  
 AV. DEPTH OF SNOW 3M AV. DEPTH OF SNOW 1.4M

OPERATING SEASON: ALL YEAR ROUND, XX

ACCESS AND TRANSPORT:

FROM GARMISCH TO SCHNEEFERNERHAUS (2650 M), BY COG-WHEEL RAILWAY.

1. PERSONNEL. FROM SCHNEEFERNERHAUS TO SUMMIT STATION BY CABLE CAR.

2. HEAVY EQUIPMENT: (VIA) SAME WAY.

3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NO ACCESS.

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE. YES.

2. STOVE (A) TO BE BROUGHT NO. (B) AVAILABLE. YES.

3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES. (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. NO. (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

GARMISCH (READY MEALS SERVED AT MÜNCHENER HAUS, CABLE CAR SUMMIT)  
WATER CONTINUOUS SUPPLY (IN CANS) BY RAILWAY, STATION RESTAURANT, AND SCHNEEFERNERHAUS)

SANITATION YES.

HEATING ELECTRIC.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. (GARMISCH) 15 KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT NO.

(B) POWER AVAILABLE YES.

A.C. POWER 5.5 KW, 220 VOLTS, 50 CYCLES, 3 PHASE.

D.C. POWER NONE. KW, VOLTS.

SPACE 2 X 16 SQUARE METERS. 14 SQ.M.

(NO STORAGE ROOM AVAILABLE.)

PERMANENT STAFF: NUMBER 3 FUNCTIONS TAKING METEOROLOGICAL OBSERVATIONS.

ACCOMODATIONS FOR NO PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

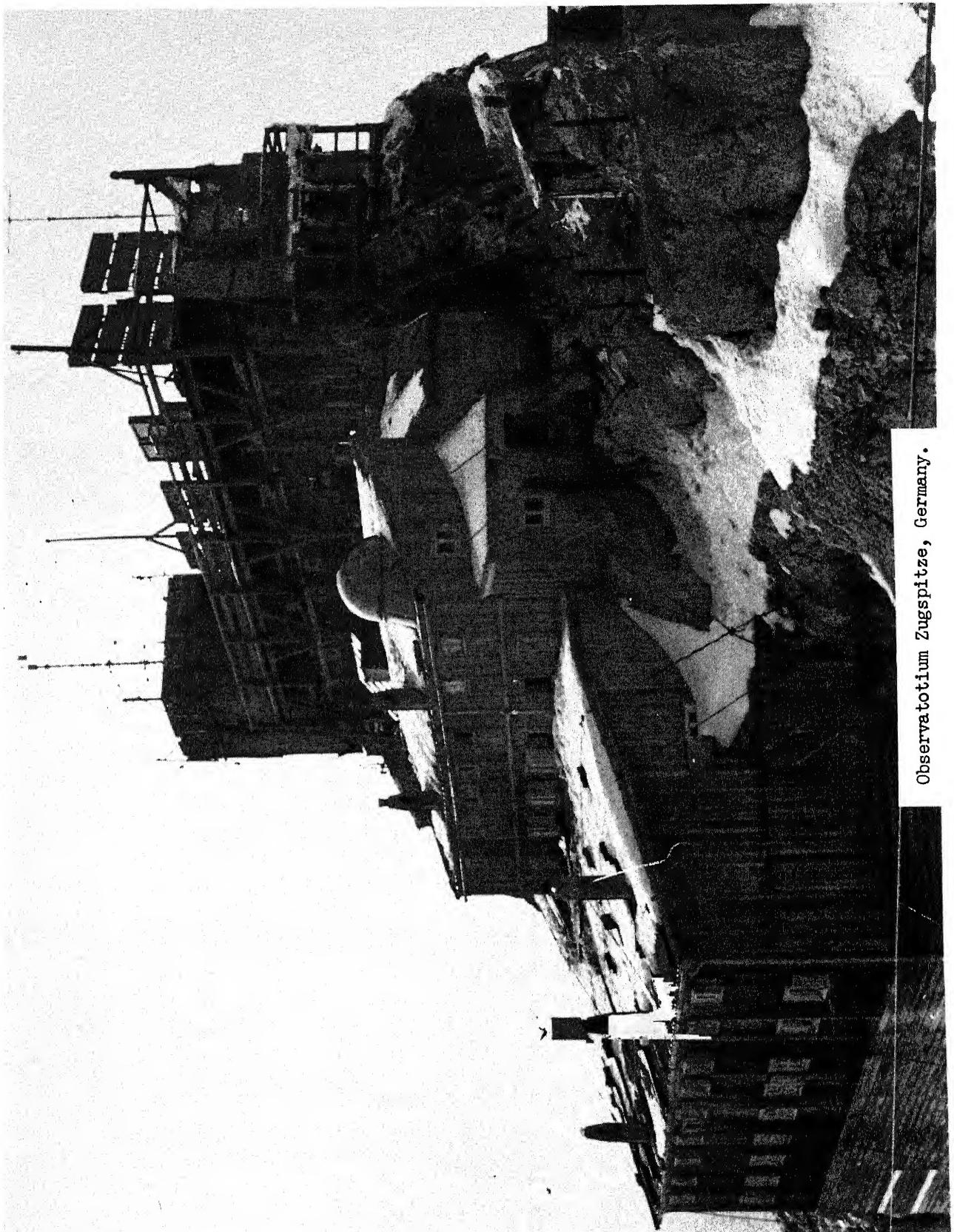
NAME OF STATION OBSERVATORIUM ZUGSPITZE.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION DEUTSCHER WETTERDIENST.2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE DR. R. BENKENDORFF, PRESIDENT  
DEUTSCHER WETTERDIENST, BOCKENHEIMER LANDSTR. 42, FRANKFURT/MAIN, GERMANY.CONDITIONS FOR APPLICATION TO BE SETTLED INDIVIDUALLY BY DIRECT APPLICATION TO:DEUTSCHER WETTERDIENST, WETTERAMT MÜNCHEN,  
MARIA-THERESIA-STR. 28, MÜNCHEN 27, GERMANY.HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NONE.LIGHT EQUIPMENT PERMANENTLY AVAILABLE.DARK ROOM FACILITIES NO, BUT CAN BE ARRANGED FOR.ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONE.MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL - POUNDS, OR: - LB/SQ. FOOT FOR HEAVY  
LOADS.THICKNESS AND MATERIAL OF ROOF: SOLID, WOOD COVERED WITH ZINC PLATE, USED AS AN  
OBSERVING PLATFORM.IS ROOF FLAT OR SLANTED? FLAT.LIBRARY SMALL.WORK SHOP: MAJOR MACHINES: NONE.TOOLS AND OTHER FACILITIES NONE.PERMANENT MECHANIC AVAILABLE? NONE.SCIENTIFIC FIELDS OF RESEARCH: ACTUAL ALPINE METEOROLOGY.POTENTIAL ATMOSPHERIC ELECTRICITY, COSMIC RAYS, CLOUD PHYSICS

## FURTHER REMARKS AND DATA.

THE PRINCIPAL FUNCTIONS OF THE OBSERVATORIUM ARE THOSE OF A MAIN SYNOPTIC AND CLIMATOLOGICAL STATION. THE STRUCTURE WAS BUILT AS A ONE-MAN STATION IN 1900, AND NOW, WITH A PERMANENT STAFF OF THREE WORKING IN DAY AND NIGHT SHIFTS, THERE IS NO SPARE SPACE LEFT. HOWEVER, SCHNEEFERNERHAUS (A COMFORTABLE HOTEL, 5 MINUTES FROM THE OBSERVATORIUM BY CABLE CAR) SOMEWHAT RELIEVES THE SITUATION AND PERFORMING ADDITIONAL RESEARCH ON THE ZUGSPITZE REPRESENTS NO INSURMOUNTABLE PROBLEM ALTOGETHER.



Observatorium Zugspitze, Germany.

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: HAFELEKARTIROL, AUSTRIA

FREIGHT ADDRESS IF DIFFERENT: \_\_\_\_\_ FEET AV. BAROMETRIC

ALTITUDE 2297 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ N. OR S. PRESSURE \_\_\_\_\_ CM.HGGEOGRAPHIC LATITUDE 47° 19' N. GEOGRAPHIC LONGITUDE 11° 23' E.

CLIMATE: WINTER: MAX. TEMP. \_\_\_\_ F. OR C.

SUMMER: MAX. TEMP. \_\_\_\_ F. OR C.

HIGH ALPINE MIN. TEMP. \_\_\_\_\_

MIN. TEMP. \_\_\_\_\_

CLIMATE: MAINLY AVERAGE TEMP. \_\_\_\_\_

AVERAGE TEMP. \_\_\_\_\_

SOUTH AND NORTH AV. DEPTH OF SNOW \_\_\_\_ FT.

AV. DEPTH OF SNOW \_\_\_\_ FT.

WINDS.

OPERATING SEASON: ALL YEAR ROUND.

## ACCESS AND TRANSPORT:

BY CABLE CAR NEARLY THROUGHOUT THE YEAR.

1. PERSONNEL. FROM TOP STATION OF VIA MOUNTAIN PATH BY FOOT  
CABLE CAR2. HEAVY EQUIPMENT: (VIA) CABLE CAR, IN 100 KG LOADS.3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NO ACCESS TO TOP.

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES. COOK AVAILABLE. NO.2. STOVE (A) TO BE BROUGHT No. (B) AVAILABLE. YES.3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES. (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. AT HOTEL\* (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.WATER ONLY LIMITED AMOUNTS AVAILABLE. IN WINTERTIME ONLY BY SNOW MELTING.

SANITATION \_\_\_\_\_

HEATING ELECTRIC. ALSO BY STOVE.

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. \_\_\_\_\_ MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT \_\_\_\_\_

(B) POWER AVAILABLE YES.A.C. POWER 10 KW, 220 VOLTS, 60 CYCLES, 3 PHASE.D.C. POWER    KW,    VOLTS.SPACE 1 BIG ROOM COMBINED WITH KITCHEN AND STOVE. (5 X 5 M<sup>2</sup>)  
1 SMALL BEDROOM WITH 2 BEDS. (3 X 3 M<sup>2</sup>)PERMANENT STAFF: NUMBER 2 FUNCTIONS OBSERVERS.ACCOMODATIONS FOR 1\*\* PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION HAFELEKAR.

## ADMINISTRATION:

1. SPONSORING ORGANIZATION SEKRETARIAT: WETTERDIENSTSTELLE INNSBRUCK  
FLUGHAFEN KRANEBITTERALLEE, TEL. 2753.  
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE PROFESSOR H. V. FICKER,

DIREKTOR DER ZENTRALANSTALT FÜR METEOROLOGIE UND GEODYNAMIK, WIEN XIX, HOHE WARTE 38.

CONDITIONS FOR APPLICATION APPLICATIONS FROM SCIENTISTS OF ALL COUNTRIES SHOULD BE DIRECTED TO THE ZENTRALANSTALT FÜR M. U G., WITH A SHORT DESCRIPTION OF PLANNED RESEARCHES. FEES FOR SOJOURN IN THE CABLE CAR TOP STATION: SCHILLING 15 PER NIGHT.

**IN THE HOTEL\*\*: SCHILLING 23 PER NIGHT (WITHOUT 10%).**

**EAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE**

ENVIRONMENT PERMANENT: OR, SEMI-PERMANENT: UNIVERSAL \_\_\_\_\_

## METEOROLOGICAL INSTRUMENTS.

**LIGHT EQUIPMENT** \_\_\_\_\_

**ARK ROOM FACILITIES** \_\_\_\_\_

## ANIMAL HOUSING FACILITIES FOR BIOLOGISTS

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL       200       POUNDS, OR: \_\_\_\_\_

[View Details](#) [Edit](#) [Delete](#)

HICKNESS AND MATERIAL OF ROOF: 75 CM CONCRETE.

HICKNESS AND MATERIAL OF ROOF: 75 CM CONCRETE.

HICKNESS AND MATERIAL OF ROOF: 75 CM CONCRETE.

[View Details](#) | [Edit](#) | [Delete](#)

IS ROOF FLAT OR SLANTED? \_\_\_\_\_

**LIBRARY** **NONE.**

WORK SHOP: MAJOR MACHINES: NONE.

TOOLS AND OTHER FACILITIES

PERMANENT MECHANIC AVAILABLE? \_\_\_\_\_

CIENTIFIC FIELDS OF RESEARCH: ACTUAL METEOROLOGY.

POTENTIAL BIOLOGY, BOTANY, HIGH ALTITUDE PHYSIOLOGY,  
COSMIC RAYS, METEOROLOGY, GEOPHYSICS.

## **FURTHER REMARKS AND DATA.**

\* HOTEL SEGRUBE (1905 M) OFFERS BOARD FOR SCHILLING 40-50  
(WITHOUT DRINKS AND 10% TIPS) PER DAY.

**\*\* ACCOMMODATIONS: ALSO 4 ROOMS AT THE TOP STATION OF THE CABLE CAR AND OTHER ROOMS AT THE SEEGRUBE HOTEL (7 MINUTES BY CABLE CAR BELOW THE TOP).**

## JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATIONNAME AND ADDRESS OF STATION: MOUNT WRANGELL OBSERVATORY

C/O GEOPHYSICAL INSTITUTE, COLLEGE, ALASKA

REIGHT ADDRESS IF DIFFERENT: GEOPHYSICAL INSTITUTE, COLLEGE, ALASKA

FEET

AV. BAROMETRIC

LTITUDE 14,000 GEOMAGNETIC LATITUDE 63° N. PRESSURE    CM.HGEOGRAPHIC LATITUDE 62° N. GEOGRAPHIC LONGITUDE 144° W.

LIMATE: WINTER: MAX. TEMP.    F. OR C.  
 MIN. TEMP.     
 AVERAGE TEMP.     
 AV. DEPTH OF SNOW    FT.

SUMMER: MAX. TEMP. 30° F.  
 MIN. TEMP. 0°  
 AVERAGE TEMP. 20°  
 AV. DEPTH OF SNOW 6 FT.

OPERATING SEASON: FROM MAY TO SEPT. INCLUSIVE.

## ACCESS AND TRANSPORT:

SEE NOTE (1).

1. PERSONNEL. FROM COLLEGE (FAIRBANKS) VIA COPPER CENTER TO SUMMIT BY AIR
2. HEAVY EQUIPMENT: (VIA) AIR DROP
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? NO

## KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE.
2. STOVE (A) TO BE BROUGHT    (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. YES (YES OR NO)  
 (B) CATERING ALREADY ARRANGED FOR. NO (YES OR NO)  
 (C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.  
FAIRBANKS OR COPPER CENTER

WATER MELTING SNOWSANITATION NONEHEATING GASOLENE STOVE.APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 50 MI.ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT IF MORE THAN 3 KW NEEDED,(B) POWER AVAILABLE YESA.C. POWER 3 KW, 110 VOLTS, 60 CYCLES, 1 PHASE.D.C. POWER 2 KW, 28 VOLTS.SPACE 200 SQUARE FEET ORPERMANENT STAFF: NUMBER NONE FUNCTIONS   ACCOMODATIONS FOR 4 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

## HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION MOUNT WRANGELL

## ADMINISTRATION:

1. SPONSORING ORGANIZATION NEW YORK UNIVERSITY2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE MR. P. BETTLERGEOPHYSICAL INSTITUTE, COLLEGE, ALASKA

CONDITIONS FOR APPLICATION \_\_\_\_\_

FEE FOR SOJOURN TO BE DETERMINEDHEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE NONELIGHT EQUIPMENT GENERATORS, AC AND DC, AND CONVERTERSDARK ROOM FACILITIES NONEANIMAL HOUSING FACILITIES FOR BIOLOGISTS NONEMAXIMUM LOADING OF LABORATORY FLOOR: TOTAL 3000 POUNDS, OR: KG/SQ. METER LB/SQ. FOOTTHICKNESS AND MATERIAL OF ROOF: TWO INCHES CANVAS AND INSULATIONIS ROOF FLAT OR SLANTED? ROUND (HEMICYLINDER)LIBRARY NONEWORK SHOP: MAJOR MACHINES: NONETOOLS AND OTHER FACILITIES HAND TOOLSPERMANENT MECHANIC AVAILABLE? NOSCIENTIFIC FIELDS OF RESEARCH: ACTUAL COSMIC-RAYSPOTENTIAL BIOLOGY

FURTHER REMARKS AND DATA.

SEE REF. 11

NOTE (1) TRANSPORT: COLLEGE (FAIRBANKS) TO COPPER CENTER:  
250 MILES VIA THE RICHARDSON HIGHWAY BY AUTO OR TRUCK.  
OR APPROX. 2 HOURS FLYING BY LIGHT AIRPLANE.COPPER CENTER TO SUMMIT:  
1 TO 2 HOURS (46 MI.) BY LIGHT PLANE.



Mt. Wrangell Cosmic Ray Observatory, Alaska. Upper structure, dormitory; lower, generator hut and apparatus. Elevation about 14,000 feet.

PHOTO BY S.A.KORFF.

ADDENDUM  
JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: ESTACION DE ALTURA "PERÓN", UNIVERSIDAD NACIONAL DE CUYO, DEPARTAMENTO DE INVESTIGACIONES CIENTÍFICAS, MENDOZA, ARGENTINA.

FREIGHT ADDRESS IF DIFFERENT:

ALTITUDE 3852 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ AV. BAROMETRIC N. OR S. PRESSURE 47.5 CM.HG

GEOGRAPHIC LATITUDE 34°10' S. GEOGRAPHIC LONGITUDE 69°40' W.

CLIMATE: WINTER: MAX. TEMP. -8.2 C.  
MIN. TEMP. -23.4 °C.  
AVERAGE TEMP. -5.8  
AV. DEPTH OF SNOW    FT.

SUMMER: MAX. TEMP. 12.4 C.  
MIN. TEMP. -10.6 °C.  
AVERAGE TEMP. 2.5  
AV. DEPTH OF SNOW    FT.

OPERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

ACCESS AND TRANSPORT:

1. PERSONNEL. FROM MENDOZA VIA TUNUYAN BY (RAIL)(AUTO) AUTO
2. HEAVY EQUIPMENT: (VIA) THE SAME
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. YES
2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS NO (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER SUPPLY AT PRESENT

SANITATION NO

HEATING BY STOVES

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 180 KM. MI. OR KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT

(B) POWER AVAILABLE WIND CHARGER

A.C. POWER    KW,    VOLTS,    CYCLES,    PHASE.

D.C. POWER 0.5 KW, 32 VOLTS.

SPACE 144 M<sup>2</sup> SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER 2 FUNCTIONS METEOROLOGICAL OBSERVATIONS

ACCOMODATIONS FOR 6-8 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

ADDENDUM

HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION ESTACION DE ALTURA "PERÓN"

ADMINISTRATION:

1. SPONSORING ORGANIZATION UNIVERSIDAD NACIONAL DE CUYO, DEP. DE INV. CIENTIFICAS.
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE ROBERTO AMADEO DE BALDRICH PARDO, SECRETARY.

CONDITIONS FOR APPLICATION ---

TIME FOR SOJOURN ---

ARMED EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE SLEEPING ROOM, KITCHEN AND EATING ROOM.

GENERAL EQUIPMENT ---

WORK ROOM FACILITIES YES, BUT NO PHOTOGRAPHIC LABORATORY

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NO

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL POUNDS, OR: 200 KG/OR KG/SQ. METER

ROOF THICKNESS AND MATERIAL OF ROOF: ZINC, CEILING; WOOD, 1".

IS ROOF FLAT OR SLANTED? SLANTED.

BIBLIOTHEQUE AVAILABLE AT THE ADMINISTRATION.

WORK SHOP: MAJOR MACHINES: NO

TOOLS AND OTHER FACILITIES NO

PERMANENT MECHANIC AVAILABLE? AT THE ADMINISTRATION.

SCIENTIFIC FIELDS OF RESEARCH: ACTUAL METEOROLOGY

POTENTIAL GEOLOGY, BIOLOGY, PHYSICS.

OTHER REMARKS AND DATA.

ADDENDUM  
JOINT COMMISSION ON HIGH ALTITUDE RESEARCH STATIONS

DATA SHEET ON HIGH ALTITUDE STATION

NAME AND ADDRESS OF STATION: OBSERVATORIO "EVA PERÓN", UNIVERSIDAD NACIONAL DE CUYO,  
DEPARTAMENTO DE INVESTIGACIONES CIENTÍFICAS, MENDOZA, ARGENTINA.

EIGHT ADDRESS IF DIFFERENT:

ALTITUDE 3100 METERS GEOMAGNETIC LATITUDE \_\_\_\_\_ AV. BAROMETRIC  
N. OR S. PRESSURE 52.7 CM.HG

GEOGRAPHIC LATITUDE 32°49' S. GEOGRAPHIC LONGITUDE 69°10' W.

ESTIMATE: WINTER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. \_\_\_\_\_  
AV. DEPTH OF SNOW M. FT.

SUMMER: MAX. TEMP. \_\_\_\_\_ F. OR C.  
MIN. TEMP. \_\_\_\_\_  
AVERAGE TEMP. \_\_\_\_\_  
AV. DEPTH OF SNOW M. FT.

OPERATING SEASON: ALL YEAR ROUND, OR FROM \_\_\_\_\_ TO \_\_\_\_\_ INCLUSIVE.

ACCESS AND TRANSPORT:

1. PERSONNEL. FROM MENDOZA VIA CASA DE PIEDRA BY (RAIL)(AUTO) AUTO.
2. HEAVY EQUIPMENT: (VIA) THE SAME
3. IS IT ADVANTAGEOUS FOR OBSERVERS TO BRING THEIR OWN AUTO IF POSSIBLE? YES.

KITCHEN AND MEAL FACILITIES:

1. OBSERVERS DO THEIR OWN COOKING. YES COOK AVAILABLE. YES
2. STOVE (A) TO BE BROUGHT NO (B) AVAILABLE. YES
3. FOOD AND SUPPLIES: (A) OBSERVERS TO MAKE THEIR OWN ARRANGEMENTS. NO (YES OR NO)  
(B) CATERING ALREADY ARRANGED FOR. YES (YES OR NO)  
(C) WHERE FOOD CAN BE OBTAINED, IF ANSWER TO (A) IS YES.

WATER TRANSPORTED FROM CASA DE PIEDRA BY AUTO.

SANITATION NO

HEATING BY STOVES

APPROX. DISTANCE TO NEAREST PHYSICIAN, HOSPITAL OR MEDICAL CLINIC. 50 KM.

ELECTRIC POWER: (A) OBSERVER TO MAKE HIS OWN ARRANGEMENT

(B) POWER AVAILABLE WIND CHARGER

A.C. POWER    KW,    VOLTS,    CYCLES,    PHASE.

D.C. POWER 0,5 KW, 32 VOLTS.

SPACE 50 m² SQUARE FEET OR SQUARE METERS.

PERMANENT STAFF: NUMBER 2 FUNCTIONS METEOROLOGICAL OBSERVATIONS

ACCOMODATIONS FOR 4-5 PERSONS IN ADDITION TO PERMANENT STAFF IF ANY.

ADDENDUM  
HIGH ALTITUDE STATION DATA SHEET CONTINUED.

NAME OF STATION OBSERVATORIO "EVA PERÓN"

ADMINISTRATION:

1. SPONSORING ORGANIZATION UNIVERSIDAD NACIONAL DE CUYO, DEP. DE INV. CIENTÍFICAS.
2. NAME AND ADDRESS OF ADMINISTRATIVE OFFICER IN CHARGE ROBERTO AMADEO DE BALDRICH  
PARDO, SECRETARY, U.N.C., D.I.C., MENDOZA, ARGENTINA.

CONDITIONS FOR APPLICATION ---

FEES FOR SOJOURN ---

HEAVY EQUIPMENT PERMANENTLY OR SEMI-PERMANENTLY AVAILABLE SLEEPING ROOM, KITCHEN AND  
EATING ROOM.

LIGHT EQUIPMENT

DARK ROOM FACILITIES YES, BUT NO PHOTOGRAPHIC LABORATORY.

ANIMAL HOUSING FACILITIES FOR BIOLOGISTS NO KG/OR KG/SQ. METER

MAXIMUM LOADING OF LABORATORY FLOOR: TOTAL 200 POUNDS, OR: 200

THICKNESS AND MATERIAL OF ROOF: ZINC, CEILING: WOOD, 1".

IS ROOF FLAT OR SLANTED? SLANTED.

LIBRARY AVAILABLE AT THE ADMINISTRATION.

WORK SHOP: MAJOR MACHINES: NO

TOOLS AND OTHER FACILITIES NO

PERMANENT MECHANIC AVAILABLE? AT THE ADMINISTRATION.

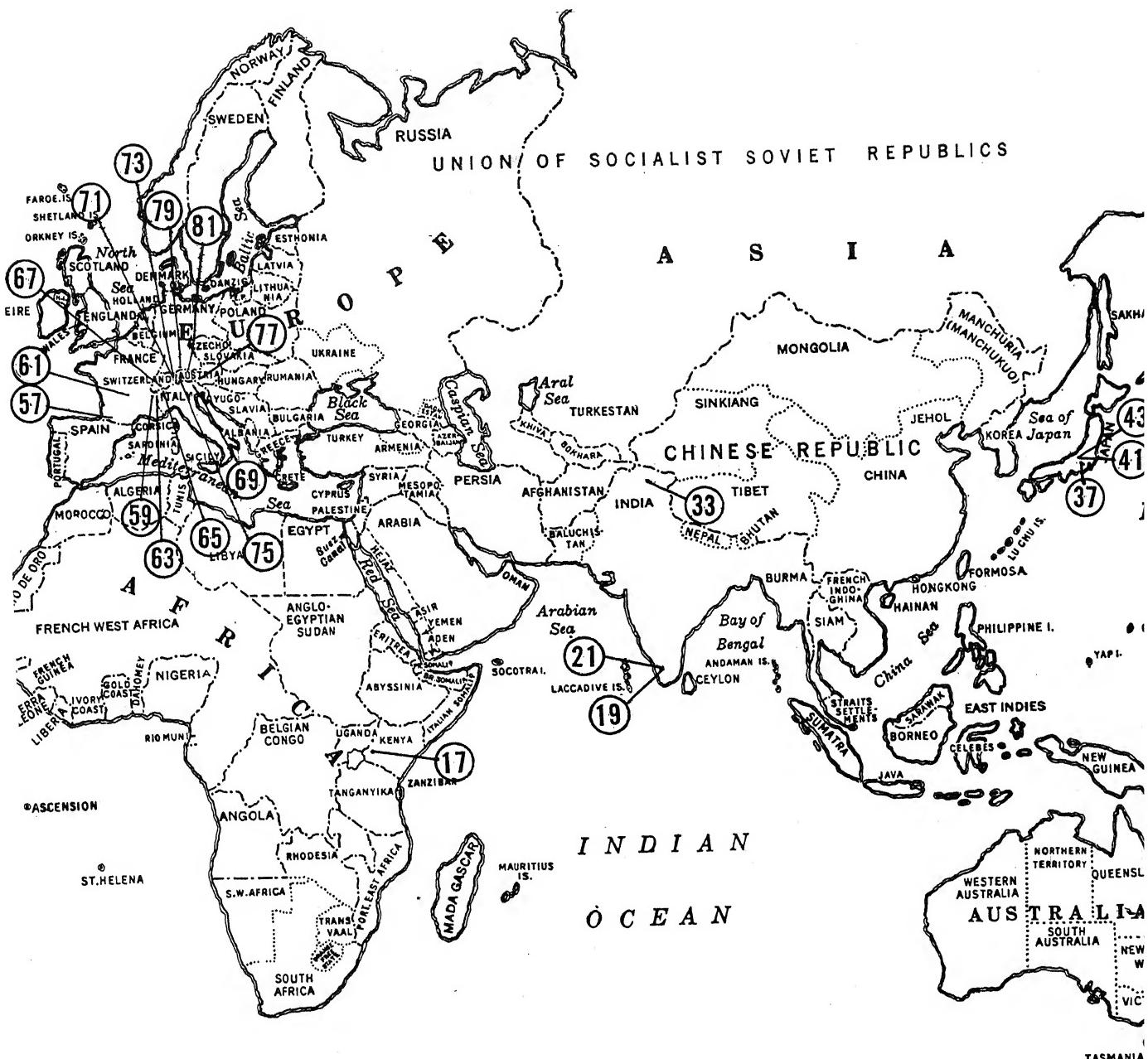
SCIENTIFIC FIELDS OF RESEARCH: ACTUAL METEOROLOGY.

POTENTIAL GEOLOGY, BIOLOGY, PHYSICS.

FURTHER REMARKS AND DATA.

BEGUN IN 1953, THEREFORE NO DATA ON CLIMATE AVAILABLE.





*A N T A R C T I C*

*O C E A N*

## APPENDIX I

## NOTES ABOUT ELECTRICAL POWER.

IN GENERAL, ALTERNATING CURRENT IN THE WESTERN HEMISPHERE IS 110 VOLTS 60 CYCLES IN NORTH AMERICA, 220 VOLTS IN SOUTH AMERICA. MANY COUNTRIES IN THE EASTERN HEMISPHERE USE 220 VOLTS AND 50 CYCLES. PERSONS INTENDING TO USE SYNCHRONOUS OR ROTARY EQUIPMENT SHOULD BE CAREFUL TO CHECK THE FREQUENCY. THERE ARE EXCEPTIONS IN BOTH HEMISPHERES. CERTAIN INSTALLATIONS EMPLOY 25 CYCLES, OTHERS D. C. TRANSFORMERS FOR 60 CYCLES WILL NOT WORK SATISFACTORILY ON 25 BUT 25 CYCLE TRANSFORMERS CAN BE USED ON 60. PORTABLE 2:1 TRANSFORMERS CAN GENERALLY BE USED AS ADAPTORS FOR 220:110 VOLT CONVERSION.

PLUGS, SOCKETS AND FITTINGS VARY CONSIDERABLY. THEY ARE NOT INTERCHANGEABLE AMONG THE SEVERAL TYPES. THUS FOR EXAMPLE, CANADA, THE U. S. AND MEXICO, AND MUCH OF CENTRAL AND SOUTH AMERICA USE U. S. TYPE PLUGS WITH THE FLAT PRONGS, AND MEDIUM SCREW-TYPE BULB BASES, IN CONTRAST TO THE EUROPEAN ROUND-PIN PLUGS AND BAYONET BASE BULBS. THE BRITISH ROUND-PIN PLUG IS NOT INTERCHANGEABLE WITH THE CONTINENTAL TYPE. BRITAIN AND MANY BRITISH COLONIES USE BAYONET TYPE BULBS, WHILE FRANCE AND MOST FRENCH COLONIES USE SCREW-BASE BULBS. ANYONE PLANNING TO TRAVEL WITH ELECTRICAL EQUIPMENT SHOULD THEREFORE BE EQUIPPED WITH CONVERTING-PLUGS. TO SUMMARIZE, THERE ARE THREE MAIN TYPES OF PLUGS, THE EUROPEAN CONTINENTAL ROUND-PIN TYPE, THE BRITISH ROUND-PIN AND THE U. S. FLAT PIN. SCREW TYPE AND BAYONET BASE BULBS FORM TWO TYPES. THE U. S. SCREW-BASE AND THE EUROPEAN ARE ONE-WAY INTERCHANGEABLE, IN THAT THE EUROPEAN SOCKET IS DEEPER AND MANY U. S. BULBS AND CONNECTORS DO NOT MAKE CONTACT, WHEREAS EUROPEAN BULBS CAN BE USED IN U.S. SOCKETS. ALL PERMUTATIONS AND COMBINATIONS OF BULB TYPES AND PLUGS WILL BE FOUND.

CONSTANCY OF POWER AND FREQUENCY VARY CONSIDERABLY. IN SOME PLACES INTERRUPTIONS ARE FREQUENT, IN OTHERS, RARE. IN GENERAL, IN REMOTE AREAS, OBSERVERS SHOULD USE EQUIPMENT FOR WHICH EXACTNESS OF VOLTAGE IS NOT CRITICAL,

## APPENDIX I

AND FOR WHICH CONSTANCY OF FREQUENCY IS AS UNIMPORTANT AS POSSIBLE. OBSERVERS ARE CAUTIONED THAT MANY "CONSTANT VOLTAGE" DEVICES AND VOLTAGE STABILIZERS WILL NOT WORK PROPERLY IF THE FREQUENCY VARIES. OBSERVERS SHOULD CONSIDER THIS PHASE OF THEIR PROBLEMS, TO AVOID DISAPPOINTING DELAYS.

OBSERVERS ARE ALSO ADVISED TO BRING ADEQUATE REPAIR KITS AND COLLECTIONS OF SPARE PARTS, FOR IN SOME COUNTRIES NOT MUCH IS OBTAINABLE LOCALLY. AGAIN, EUROPE USES METRIC SIZES AND THREADS, NORTH AMERICA USES BRITISH SYSTEM BUT AMERICAN SIZE STANDARDS, WHILE IN SOME SOUTH AMERICAN COUNTRIES, METRIC SIZES AND BRITISH THREADS ARE FOUND IN VARIOUS MIXTURES. ON OLDER EQUIPMENT, BRITISH AND AMERICAN THREADS WITH THE SAME DIMENSIONS ARE NOT INTERCHANGEABLE, AS THE STANDARD SCREW THREAD ANGLES ARE DIFFERENT.

FINALLY, OBSERVERS ARE ADVISED TO SEE THAT THEIR EQUIPMENT IS FUNCTIONING PROPERLY BEFORE LEAVING THEIR HOME BASE. REPAIR AND DEVELOPMENT WORK DONE IN THE FIELD IS ALWAYS DONE UNDER DIFFICULTIES AND RESULTS IN DELAYS. HIGH ALTITUDE STATIONS ARE NOT GOOD PLACES IN WHICH TO DO ELECTRICAL CIRCUIT DEVELOPMENT OR TESTING.

## C

## APPENDIX II

## LIST (A)

MAJOR CITIES, WITH UNIVERSITIES, AT HIGH ELEVATIONS.

<u>CITY</u>	<u>COUNTRY</u>	<u>ALTITUDE, FEET</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>GEOMAG. LAT.</u>
LA PAZ	BOLIVIA	12,500	16°S	68°W	4°S
AREQUIPA	PERU	7,800	16°S	71°W	4°S
CUZCO	PERU	11,000	14°S	72°W	2°S
QUITO	ECUADOR	9,600	0	78°W	12°N
BOGOTA	COLOMBIA	8,600	4°N	74°W	16°N
MEXICO D.F.	MEXICO	7,500	19°N	99°W	31°N

## APPENDIX II

## LIST (B)

A FEW MOUNTAIN STATIONS WHICH COULD BE OR HAVE BEEN OCCUPIED, AND HIGH PASSES  
ACCESSIBLE BY ROAD.

<u>NAME</u>	<u>COUNTRY</u>	<u>ALTITUDE</u>	<u>APPROX.LAT.</u>	<u>LONG.</u>	<u>REMARKS</u>
LA CUMBRE	CHILE	10,466 FT.	24°S	68°W	HIGH POINT ON ARGENTINA-CHILE RR.
COLLAHUASI	CHILE	4,821 M	21°S	69°W	HIGH POINT ON SPUR OF ANTOFAGASTA-LA PAZ RR.
	BOLIVIA	4,057 M	21°S	66°W	HIGH POINT ON ATOCHA-LA QUIACA RR.
	BOLIVIA	4,033 M	20°S	66°W	HIGH POINT ON SUCRE-POTOSI RR.
GRAL. LAGOS	BOLIVIA	4,256 M	18°S	69°W	HIGH POINT ON ARICA-LA PAZ RR.
	BOLIVIA	15,000 FT	17°S	68°W	HIGH POINT ON LA PAZ-YUNGAS RR.
EL MISTI	PERU	19,200 FT	16°S	71°W	HARVARD OBS. STATION; COMPTON 1932; KORFF 1934; HILBERRY 1940; SEE REF. 2.
CRUCERO ALTO	PERU	14,688 FT	16°S	70°W	HIGH POINT ON SOUTHERN RR. OF PERU; NEHER, 1932.
CAILLOMA	PERU	14,350 FT	15°S	72°W	AUTO ROAD; KORFF, 1934; REF. 9.
LA CIMA	PERU	15,805 FT	12°S	77°W	HIGH POINT ON MOROCOCHA SPUR CENTRAL RR. OF PERU.
TICLIO-GALERA	PERU	15,693 FT	12°S	77°W	HIGH TUNNEL, CENTRAL RR. OF PERU; COMPTON 1932; KORFF 1934.
KILIMANJARO	TANGANYIKA	19,565 FT 16,000 FT	3°S	38°E	SUMMIT KIBO HUT AND MAWENZI HUT (APPROX. 6 MILES APART; LINE-OF-SIGHT BASE)
MT. KENYA	KENYA	15,800 FT 14,800 FT	0°	37°E	SUMMIT, NOT EASY OF ACCESS. TOP HUT. TWO TARN HUT (SHELTERS WITH STOVE AND BUNKS)
MT. RUWENZORI	UGANDA	12,750 FT	0°	30°E	SUMMIT, NOT EASY OF ACCESS. BUJUKU HUT.
PARAMO DE MUCUCHIES, VENEZUELA	VENEZUELA	4,000 M	8°N	71°W	HIGH POINT ON HIGHWAY. HOTEL; NO POWER.
C. DE LA MUERTE	COSTA RICA	3,505 M	9°N	84°W	HIGH POINT ON PAN AMERICAN HIGHWAY.
NEVADO DE TOLUCA	MEXICO	15,036 FT 13,000 FT	19°N	100°W	SUMMIT. END OF ROAD; COMPTON, 1932.
TIZI N'TEST TIZI N'TICHKA	MOROCCO "	2,100 M 2,270 M	31°N 31°N	8°W 7°W	PASSES ON HIGHWAY SOUTH OF MARRAKESH.
RHOTANG LA	INDIA	12,500 FT.	32°N	77°E	J.M.BENADEF, 1932. (SEE COMPTON, REF. 2)

## APPENDIX II

## LIST (B) CONTINUED.

<u>NAME</u>	<u>COUNTRY</u>	<u>ALTITUDE</u>	<u>APPROX.LAT.</u>	<u>LONG.</u>	<u>REMARKS</u>
SARCHU	INDIA	13,000 FT	33°N	78°E	J.M.BENADE, 1932.
BARA LACHA LA	"	15,500 FT	33°N	77°E	(SEE COMPTON, REF. 2)
LACHELUNG LA	"	15,500 FT	33°N	77°E	
TELEKONA	"	16,000 FT	33°N	78°E	
LANYAR LA	"	18,500 FT	30°N	78°E	
SAN FRANCISCO PEAK	ARIZONA (USA)	12,611 FT 11,280 FT	35°N	112°W	SUMMIT. DOYLE SADDLE, END OF ROAD; KORFF 1933; REF. 9.
MT. WHITNEY	CALIFORNIA (USA)	14,495 FT	36°N	119°W	MULE TRAIL TO SUMMIT.
MT. ETNA	SICILY (ITALY)	3,274 M 3,000 M	38°N	15°E	SUMMIT. END OF AUTO ROAD.
PIKE'S PEAK	COLORADO (USA)	14,107 FT	39°N	105°W	MOTOR ROAD AND COG RR TO SUMMIT; ANDERSON 1935; REF. 8.
FREMONT PASS	COLORADO (USA)	11,330 FT	40°N	106°W	HIGH PASSES ON DENVER, RIO GRANDE
MARSHALL PASS	"	10,856 FT	40°N	106°W	& WESTERN RR SYSTEM.
TENNESSEE PASS	"	10,232 FT	40°N	106°W	
WOLF CREEK "	"	10,850 FT	37°N	106°W	SOME OF THE PASSES ON THE COLORADO
MONARCH "	"	11,312 FT	38°N	106°W	HIGHWAY SYSTEM.
RED MTN. "	"	11,018 FT	38°N	108°W	*HIGHWAY.
INDEPENDENCE"	"	12,095 FT	39°N	106°W	*(NOTE: IN SOME CASES THE RAILWAY
TENNESSEE "	"	10,424 FT	39°N	106°W	* MAY CROSS THE SAME PASS BUT NOT AT
FREMONT "	"	11,318 FT	39°N	106°W	THE SAME ALTITUDE. IN OTHER CASES
LOVELAND "	"	11,992 FT	39°N	106°W	
VAIL "	"	10,603 FT	39°N	106°W	* NEW CONSTRUCTION MAY BE AT A
BERTHOUD "	"	11,314 FT	40°N	106°W	FROM 1947 COLORADO HIGHWAY SURVEY)
MILNER "	"	10,759 FT	40°N	106°W	* DIFFERENT ELEVATION. DATA HERE
CAMERON "	"	10,285 FT	41°N	106°W	(ELECTRIC POWER USUALLY ABSENT)
					* CLOSED IN WINTER OR BY SNOW.
WALDORF MINE	"	11,600 FT	39°N	106°W	ABANDONED MINING CAMPS; ACCESS BY
LONDON MINE	"	13,200 FT	39°N	106°W	ROAD, ELEC. POWER UP TO 1000 KW.
SUMMIT LAKE	"	12,700 FT	40°N	106°W	LAKE FOR COOLING WATER. ROAD; NO POWER.
MT. MCKINLEY	ALASKA	20,300 FT 18,100 FT	63°N	151°W	SUMMIT. WASHBURN, 1943, '47, '51. DENALI SADDLE. SCHEIN ET AL. 1947. REF. 10.
ICE CAP	GREENLAND	6,000 FT	66°N	47°W	FIVE BUILDINGS WITH STOVES, ETC. "OPERATION MINT JULEP".

## F

APPENDIX III

## ASTRONOMICAL OBSERVATORIES AT INTERMEDIATE ALTITUDES, ABOVE 1000 M.

<u>NAME</u>	<u>LOCATION</u>	<u>ALTITUDE</u>	<u>LATITUDE</u>	<u>ORGANIZATION IN CHARGE</u>
BRANCH OF CÓRDOBA OBSERVATORY	BOSQUE ALEGRE, ARGENTINA	1250 M.	-31°36'	CÓRDOBA OBSERVATORY, CÓRDOBA, ARGENTINA
LAMONT-HUSSEY OBSERVATORY	BLOEMFONTEIN, S. AFRICA	1490	-29°06'	OBS. OF THE UNIV. OF MICHIGAN, ANN ARBOR, MICH.
BOYDEN STATION	BLOEMFONTEIN, S. AFRICA	1387	-29°02'	HARVARD COLL. OBS. CAMBRIDGE, MASS.
UNION OBSERVATORY	JOHANNESBURG, S. AFRICA	1806	-26°11'	UNION OBSERVATORY
YALE-COLUMBIA SOUTHERN STATION	JOHANNESBURG, S. AFRICA	1741	-26°11'	YALE UNIV. NEWHAVEN, CONN. COLUMBIA UNIV. N.Y., N.Y.
RADCLIFFE OBSERVATORY	PRETORIA, S.AFRICA	1542	-25°47'	RADCLIFFE OBSERVATORY
BOSCHHA OBSERVATORY	LEMBANG, JAVA	1300	-6°50'	UNIV. OF INDONESIA, JAVA
NATIONAL OBS. OF ECUADOR	QUITO, ECUADOR	2908	-0°14'	NATIONAL OBS. QUITO, ECUADOR
NATIONAL OBS. OF COLOMBIA	BOGOTA, COLOMBIA	2634	+4°36'	NATIONAL OBS., BOGOTA, COLOMBIA
CAJIGAL OBSERVATORY	CARACAS, VENEZUELA	1042	+10°30'	CAJIGAL OBSERVATORY
OBSERVATORIO ASTROFISICO NACIONAL	TONANZINTLA, PUEBLO, MEXICO	2150	+19°02'	OBS. ASTROFISICO NAC. DE MEXICO
NATIONAL OBS. OF MEXICO	TACUBAYA, MEXICO	2285	+19°24'	NAT. OBS. OF MEXICO
NATIONAL INST. OF ASTRONOMY	KUNMING, CHINA	1940	+25°02'	NAT. INST. OF ASTRONOMY
MCDONALD OBSERVATORY	MOUNT LOCKE, TEXAS	2070	+30°40'	UNIV. OF TEXAS
MT. PALOMAR OBSERVATORY	MT. PALOMAR, CALIF.	1706	+33°21'	CALIF. INST. OF TECHNOLOGY, PASADENA, CALIF.
SMITHSONIAN ASTROPHYS. OBS., BRANCH	MT. WILSON, CALIF.	1675	+34°13'	SMITHSONIAN ASTROPHYS. OBS., WASHINGTON, D.C.
OBS. OF CARNEGIE INSTITUTION	MT. WILSON, CALIF.	1742	+34°13'	CARNEGIE INST., PASADENA, CALIF.
LOWELL OBSERVATORY	FLAGSTAFF, ARIZONA	2210	+35°13'	LOWELL OBSERVATORY
ICK OBSERVATORY	MT. HAMILTON, CAL.	1284	+37°20'	UNIV. OF CALIF., BERKELEY, CALIF.
CHAMBERLIN OBSERVATORY	DENVER, COLORADO	1644	+39°41'	DENVER UNIV., DENVER, COLO.
OSS. ASTROFIS. DE PADUA UNIV.	ASIAGO(VICENZA)ITALY	1045	+45°52'	PADUA UNIV., PADUA, ITALY
OBSERVATOIRE SKALNATE PLESO	HAUTE TATRA, CZECHOSLOVAKIA	1783	+49°12'	STATE OBS. OF CZECHO. POSTE TATRANSKA LOMICA

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## APPENDIX IV

## SUPPLEMENTARY DATA

## I. FORMULA FOR CONVERTING GEOGRAPHIC TO GEOMAGNETIC LATITUDE.

THE FORMULA USED IN THIS REPORT IS:

$$\sin \lambda = \cos \theta \cos (\bar{B} - \phi) \cos A + \sin \theta \sin A$$

WHERE  $\lambda$  IS THE GEOMAGNETIC LATITUDE,  $\theta$  AND  $\phi$  ARE THE GEOGRAPHIC LATITUDE AND LONGITUDE OF THE NORTH GEOMAGNETIC POLE, HERE TAKEN AS  $78.5^{\circ}\text{N}$  AND  $68.1^{\circ}\text{W}$ , AND WHERE  $\bar{B}$  IS THE WEST LONGITUDE AND  $A$  THE LATITUDE IN GEOGRAPHIC COORDINATES OF THE POINT WHOSE GEOMAGNETIC LATITUDE IS SOUGHT.

THE CONVERSION FORMULA, WITH SLIGHT MODIFICATIONS HAS BEEN ELSEWHERE WRITTEN:

$$\sin \lambda = 0.9799 \sin A + 0.1994 \cos A \cos (69^{\circ} + B)$$

(REF.: THESIS, J. STREEKEE, AMSTERDAM 1952)

## APPENDIX IV

## 2. ALTITUDE-PRESSURE TABLE FOR THE U.S. STANDARD ATMOSPHERE.

ALTITUDE FEET	PRESSURE MMS HG.	STANDARD TEMP. OC
7,500	575.3	0.1
8,000	564.4	- 0.8
8,500	553.7	- 1.8
9,000	543.2	- 2.8
9,500	532.8	- 3.8
10,000	522.6	- 4.8
10,500	512.5	- 5.8
11,000	502.6	- 6.8
11,500	492.8	- 7.8
12,000	483.3	- 8.8
12,500	473.8	- 9.8
13,000	464.5	-10.8
13,500	455.4	-11.7
14,000	446.4	-12.7
14,500	437.5	-13.7
15,000	428.8	-14.7
15,500	420.8	-15.7
16,000	411.8	-16.7
16,500	403.5	-17.7
17,000	395.3	-18.7
17,500	387.3	-19.7
18,000	379.4	-20.7
18,500	371.7	-21.7
19,000	364.0	-22.6
19,500	356.5	-23.6
20,000	349.1	-24.6
21,000	334.7	-26.6
22,000	320.8	-28.6
23,000	307.4	-30.6
24,000	294.4	-32.5
25,000	281.9	-35.5

NOTE: THIS TABLE GIVES THE PRESSURE AND TEMPERATURE COMPUTED FROM THE U.S. STANDARD ATMOSPHERE FORMULA. THE ACTUAL MEAN BAROMETRIC PRESSURE AND MEAN TEMPERATURE WILL BE SLIGHTLY DIFFERENT IN MOST CASES, AND THE TABLE IS INTENDED ONLY AS AN APPROXIMATE GUIDE TO THE CONDITIONS TO BE EXPECTED.

DATA FROM TABLE BY W. G. BRONBACHER, NACA REPORT 538, (1935).

## APPENDIX IV

### 3. CONVERSION OF FEET TO METERS.

THE CONVERSIONS USED IN THIS WORK ARE:

I METER EQUALS 3.28 FEET.

FOR MORE ACCURATE CALCULATIONS, THE STANDARD VALUES ARE:

I METER IS 1.093611 YARDS OR 3.28083 FEET OR 39.3700 INCHES

I FOOT IS 0.304801 METERS

I MILE IS 1.60935 KM; 1 KM IS 0.62137 MILES

TABLE OF CONVERSION, FOR CONVENIENCE, OVER RANGE OF  
MOST HIGH ALTITUDE STATIONS.

<u>METERS</u>	<u>FEET</u>	<u>FEET</u>	<u>METERS</u>
2,000	6,561	7,000	2,133
		8,000	2,438
2,500	8,201		2,743
3,000	9,842	9,000	3,048
		10,000	
3,500	11,482	11,000	3,352
		12,000	3,655
4,000	13,123		3,962
4,500	14,763	13,000	
		14,000	4,267
5,000	16,404	15,000	4,572
		16,000	4,876
5,500	18,044		
6,000	19,685	17,000	5,181
		18,000	5,486
6,500	21,325	19,000	5,791
		20,000	6,096
7,000	22,965		
		25,000	7,620

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A FEW REFERENCES TO ARTICLES ON HIGH ALTITUDE STATIONS AND TO RESEARCH PAPERS MENTIONING SUCH STATIONS, OR POINTS TEMPORARILY OCCUPIED, ARE GIVEN HEREWITH. THE BIBLIOGRAPHY IS NOT INTENDED TO BE COMPLETE. WE MERELY LIST SOME ARTICLES WHICH PERSONS INTENDING TO USE THE STATIONS CAN LOOK UP, TO SEE WHAT KIND OF WORK HAS BEEN DONE THERE, OR WHAT HAS BEEN SAID ABOUT SUCH PLACES IN THE PAST. THE AMERICAN PHYSICAL SOCIETY STYLE OF JOURNAL REFERENCE NOTATION IS USED.

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